Parenting after child maltreatment: An examination of risk and protective factors for unsupportive emotion socialization and its impact on young adult offspring

Sarah Cabecinha-Alati, MA

Department of Educational and Counselling Psychology

McGill University, Montreal, QC

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Abstract

Child maltreatment (CM) is a widespread problem in Canada that is known to impede the healthy emotional development of affected individuals and their families. In adults, a history of CM has been associated with maladaptive parenting behaviours and poor mental health outcomes among offspring in the next generation. Although several studies have investigated the mechanisms involved in the intergenerational transmission of these negative outcomes, only a handful of them have investigated the role of emotion regulation difficulties and parents' emotion-related socialization behaviours (ERSBs). Moreover, given that CM is associated with a host of other negative sequalae across the individual, relational, and community level, it is important to discern the relative influence of multi-level factors on parents' ERSBs and to identify protective factors that may disrupt cycles of maladaptive parenting. Drawing from Gratz and Roemer's model of emotional dysregulation, theories of emotion socialization (Eisenberg et al., 1998; Morris et al., 2007), and Belsky's (1984) process model of the determinants of parenting, the program of research outlined in this dissertation aimed to elucidate how a history of CM and associated stressors and supports may influence parents' contingent responses to emotions and the intergenerational transmission of emotion regulation difficulties. Mothers and their young adult children (aged 18-25) were recruited from across Canada to participate in an online research project (N = 185 dyads). Study 1 demonstrated that mothers who endorsed more types of CM were described by their young adults as more likely to use unsupportive contingencies during adolescence, but only when mothers also endorsed high levels of emotion regulation difficulties. In particular, maternal difficulties with impulse control and emotional clarity contributed to unsupportive contingencies. Further, a moderated mediation analysis revealed that mothers' CM histories had a positive, indirect effect on young adults' emotion regulation difficulties that occurred through mothers' unsupportive contingencies, but this effect

was only evident when mothers had high levels of emotion regulation difficulties themselves. Subsequently, Study 2 examined multi-level factors, in addition to child maltreatment and impulse control difficulties, that might contribute to, or discourage, unsupportive emotion socialization. The results of a hierarchical linear regression analysis revealed that mothers who reported higher impulse control difficulties, who experienced greater revictimization, and who had more severe dissociative symptoms were rated as higher in their use of unsupportive contingencies. However, when contextual supports were added into the model, only revictimization remained associated with unsupportive contingencies. Further, mothers' positive perceptions of the parent-child attachment relationship were negatively associated with unsupportive contingencies. These findings contribute to our understanding of the relationship between a history of CM and parental emotion socialization by identifying specific dimensions of emotion regulation that might contribute to unsupportive contingencies and the intergenerational transmission of emotion regulation difficulties. They also emphasize the importance of ameliorating dissociative symptoms, reducing impulse control difficulties, preventing revictimization, and bolstering parent-child attachment, thereby illuminating potential avenues for prevention and intervention for parents with histories of CM.

Résumé

La maltraitance chez les enfants est un problème répandu au Canada et qui est reconnu comme entravant le développement émotionnel sain de personnes touchées et de leurs familles. Chez les adultes, des antécédents de maltraitance ont été associés à des comportements parentaux inadaptés et à des difficultés en matière de santé mentale chez leurs enfants. Bien que plusieurs études aient examiné les mécanismes impliqués dans la transmission intergénérationnelle de ces difficultés, seule quelques études ont investigué le rôle des difficultés liées à la régulation des émotions et des comportements de socialisation parentale des émotions (CSPÉs). De plus, étant donné que la maltraitance est associée à une foule d'autres conséquences négatives au plan individuel, relationnel et communautaire, il est important de discerner l'influence relative de facteurs multi-niveaux sur les CSPÉs et d'identifier les facteurs de protection qui peuvent mettre fin aux cycles des comportements parentaux inadaptés. S'inspirant du modèle de dysrégulation émotionnelle de Gratz et Roemer, des théories de socialisation des émotions (Eisenberg et al., 1998; Morris et al., 2007) et du « Process Model of the Determinants of Parenting » de Belsky (1984), le programme de recherche décrit dans cette thèse visait à élucider comment un historique de maltraitance, ainsi que les facteurs de stress et de soutien qui y sont associés, peuvent influencer la manière dont les parents réagissent aux émotions de leur enfant et ainsi, à la transmission intergénérationnelle de difficultés liées à la régulation des émotions. Des mères et leurs jeunes enfants adultes (âgés de 18 à 25 ans) ont été recrutés à travers le Canada pour participer à un projet de recherche en ligne (N = 185 dyades). L'étude 1 a démontré que les mères qui endossaient plus de types de maltraitance étaient décrites par leurs jeunes adultes comme étant plus susceptibles d'avoir recours à des réactions ou comportements non-soutenants pendant l'adolescence, mais seulement lorsque les mères endossaient également des niveaux élevés de difficultés liées à la régulation des émotions. En particulier, les difficultés maternelles en matière

de contrôle des impulsions et de clarté émotionnelle ont contribué aux réactions non-soutenantes. De plus, une analyse de médiation modérée a révélé que les antécédents de maltraitance des mères avaient un effet positif indirect sur les difficultés de régulation des émotions des jeunes adultes qui se produisaient par le biais de réactions non-soutenantes des mères, mais cet effet n'était que significatif lorsque les mères rapportaient elles-mêmes des niveaux élevés de difficultés de régulation des émotions. Par la suite, l'étude 2 a examiné les facteurs multi-niveaux ayant un impact, en plus de la maltraitance des enfants et des difficultés entourant le contrôle des impulsions, qui pourraient contribuer, ou nuire, à la socialisation des émotions non-soutenantes. Les résultats d'une analyse de régression linéaire hiérarchique ont révélé que les mères qui ont rapporter davantage de difficultés de contrôle des impulsions, qui ont vécu une plus grande revictimisation, et qui ont manifesté des symptômes dissociatifs plus sévères ont été évaluées comme ayant plus souvent recours à des réactions non-soutenantes. Cependant, lorsque les facteurs contextuels de soutien ont été ajoutés au modèle, seule la revictimisation était toujours associée aux réactions parentales non-soutenantes. De plus, les perceptions positives des mères sur la relation d'attachement parent-enfant étaient négativement associées aux réactions nonsoutenantes. Ces résultats contribuent à une meilleure compréhension de la relation entre des antécédents de maltraitance et la socialisation parentale des émotions en identifiant des dimensions spécifiques de la régulation des émotions qui pourraient contribuer à des réactions parentales non favorables et à la transmission intergénérationnelle de difficultés de régulation des émotions d'une génération à la suivante. Ils soulignent également l'importance de l'amélioration des symptômes dissociatifs, de la réduction des difficultés de contrôle des impulsions, de la prévention de la revictimisation et du renforcement de l'attachement parent-enfant, mettant ainsi en lumière des pistes potentielles de prévention et d'intervention pour les parents possédant des antécédents de maltraitance.

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Author Contributions

I was primary author for both studies included in this dissertation. As such, I conceptualized and developed each study within the scope of a larger research project that was being conducted in the Resilience, Adversity, and Childhood Trauma Research Lab under the supervision of Dr. Rachel Langevin. I also sought support from my co-supervisor, Dr. Tina Montreuil as needed. As my doctoral co-supervisors and co-authors, Dr. Langevin and Dr. Montreuil provided guidance during the process of developing my research questions. Dr. Langevin provided extensive feedback regarding data analysis, the presentation of the results, and edits for each manuscript as well as the dissertation as a whole. Dr. Montreuil also provided edits during the writing process and feedback pertaining to theoretical frameworks of emotion regulation and emotion socialization. The research presented in this dissertation was funded by grants from the Social Sciences and Humanities Research Council (SSHRC) and the Fonds de Recherche du Québec – Société et Culture (FRQ-SC) that were awarded to Dr. Rachel Langevin. As primary author, Sarah Cabecinha-Alati was supported by the Joseph-Armand Bombardier Canada Graduate Scholarship awarded by SSHRC.

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Chapter I

Introduction

Child maltreatment (CM) is a widespread public health problem that has long-term consequences for affected individuals, their families, and the economy (Ferrara et al., 2015; Tonmyr & Hovdestad, 2013). The Centers for Disease Control and Prevention defines CM as any act of commission or omission perpetrated by a parent or caregiver that results in harm, the potential for harm, or the threat of harm to a child or youth under the age of 18 (Leeb et al., 2008). In Canada, such acts are subsumed under five categories including physical abuse, sexual abuse, emotional maltreatment, neglect, and exposure to intimate partner violence (Fallon et al., 2015). Data from a nationally representative survey revealed that almost one-third of Canadian adults have experienced physical abuse, sexual abuse, or exposure to intimate partner violence as a child (Afifi et al., 2014) and evidence suggests that emotional maltreatment and neglect are pervasive as well (Kealy & Lee, 2018). Unfortunately, only a small percentage (7.6%) of adults who were maltreated as children reported that they had contact with a child protection organization (Afifi et al., 2015) and most adults (67%) indicated that they never reported the abuse that they experienced to anyone (Burczycka & Conroy, 2017). Thus, survivors of CM are often left to cope with the consequences in the absence of adequate supports, resulting in negative ramifications that can extend into future generations.

Several studies have demonstrated that children born to mothers with a history of CM are more likely to experience mental health problems across the lifespan (see for Madigan et al., 2015 for preschool; Babcock Fenerci et al., 2016 for school-age children; Babcock Fenerci & Allen, 2018 for pre-adolescence, and Roberts et al., 2015 for adolescence and adulthood). A systematic review by Plant and colleagues (2018) corroborated the association between a maternal history of CM and the development of emotional and behavioural difficulties in offspring. Moreover, the authors identified poor parenting as a mediator of this association.

Over three decades ago, Belsky (1984) was inspired by research on the etiology of CM and emphasized the importance of studying determinants of parenting. However, more than 20 years later, Denham and colleagues (2007) argued that there was still relatively little knowledge about the determinants of parental emotion socialization which, like CM, tends to show intergenerational continuity (Langevin et al., 2019; Leerkes et al., 2020). Parental emotion socialization refers to a wide range of parenting practices that teach children both implicitly and explicitly about the consequences of expressing their emotions as well as how to manage them (Eisenberg et al., 1998; Morris et al., 2007). Research on the determinants of parents' emotionrelated socialization behaviours (ERSBs) has garnered increased attention in recent years (Eisenberg et al., 2020) and evidence suggests that these behaviours are strongly influenced by parents' own capacity for ER (Hajal & Paley, 2020).

Although existing literature has established a link between CM, emotion regulation (ER) difficulties in adulthood, and parenting problems (mostly among mothers; see Cabecinha-Alati, Langevin, & Montreuil, 2020 for review), only two previous studies have examined how a history of CM and subsequent difficulties with ER may interact to influence parental ERSBs and the intergenerational transmission of emotional dysregulation (Cabecinha-Alati, Langevin, Kern et al., 2020; Martin et al., 2018). Additionally, CM has been associated with a host of other stressors across individual (e.g., psychopathology; Jaffee, 2017), interpersonal (e.g., insecure attachment and revictimization; Hocking et al., 2016), and exosystem (e.g., neighbourhood disadvantage; Widom, 2014) levels, but little is known about the relative influence of these

multi-level factors on parents' ERSBs or the supports that might discourage unsupportive ERSBs among survivors of CM.

Program of Research

The program of research encapsulated in this dissertation investigates the relationship between a history of CM and mothers' ERSBs and was inspired by the conceptual model that was introduced by Cabecinha-Alati, Langevin, and Montreuil (2020). Overall, the studies presented herein aim to facilitate our understanding of the mechanisms through which a history of CM might contribute to unsupportive emotion socialization and the intergenerational transmission of emotional dysregulation to offspring. Study 1 (Chapter III) investigates whether maternal ER difficulties moderate the association between a maternal history of CM and young adults' recollections of their mothers' unsupportive ERSBs during adolescence, which in turn, are thought to contribute to young adults' current difficulties with ER. Study 2 (Chapter IV) examines multi-level stressors and supports that may be associated with unsupportive ERSBs and aims to determine the relative impact of a parental history of CM and its sequalae. The final chapter of this dissertation provides an overview of the findings from both studies, identifies directions for future research, and discusses implications for clinical practice.

The Tri-Council guidelines for ethical research were adhered to judiciously throughout the process of recruitment, data collection, data analysis, and the dissemination of our research findings.

Chapter II

Review of the Literature

Prevalence and Consequences of Child Maltreatment

Child Maltreatment and Emotion Regulation Difficulties

The most recent Canadian incidence study of child maltreatment (CM) revealed that there were over 148,000 maltreatment-related investigations in Ontario during the year 2018 (Fallon et al., 2020). Of these investigations, 26% were substantiated and included exposure to intimate partner violence (45%), neglect (21%), physical abuse (19%), emotional maltreatment (12%), and sexual abuse (3%). In Quebec, the most recent incidence study was conducted in 2014 and showed that for every thousand children in the province, approximately 18.6 were assessed by youth protection and 11.2 children had substantiated cases that involved at least one type of CM (Hélie et al., 2017). Retrospective reports of CM are also pervasive among adults in Canada. Indeed, 32% of Canadian adults reported experiencing CM including physical abuse (26.1%), sexual abuse (10.1%), and exposure to intimate partner violence (7.9%) (Afifi et al., 2014). More recent data from the Canadian Longitudinal Study on Aging show similar, or even higher rates of CM among older Canadians, with physical abuse (25.7%), exposure to intimate partner violence (22.4%), and emotional abuse (21.8%) representing the most frequently reported adversities (Joshi et al., 2021). These studies highlight the prevalence of CM in Canada, but even more concerning is the substantial number of cases that go unreported (Afifi et al., 2015; Burczycka & Conroy, 2017), especially considering the lifelong negative consequences associated with CM.

The ability to regulate emotions is crucial for physical and psychological well-being (Balzarotti et al., 2016; DeSteno et al., 2013), interpersonal functioning (Barthel et al., 2018; Snyder et al., 2006), and success in educational and occupational settings (Boekaerts & Pekrun,

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2015; Newman et al., 2010). However, CM has been associated with emotion regulation difficulties and poor socio-emotional functioning in children and adolescents (Heleniak et al., 2016; Kim & Ciccheti, 2010).

Emotion regulation (ER) refers to the capacity to monitor, evaluate, and modulate the experience and expression of emotions in accordance with one's goals and environmental demands (Gross, 2015). ER begins to develop in the context of early attachment relationships wherein the child's primary caregiver acts as a source of emotional co-regulation (Cassidy 1994; Zimmer-Gembeck et al., 2017). Consequently, attachment theory (Bowlby, 1969) may be understood as a theory of affect regulation in that relational stress and psychobiological attunement from the child's caregiver set the foundation for the maturation of brain systems that are involved in the child's development of self-regulation (Schore & Schore, 2008).

CM is detrimental to the development of attachment and ER because of its early onset and the fact that the trauma is often chronic, interpersonal, and embedded within the child's caregiving system (van der Kolk, 2005). When a child's primary caregiver is neglectful or abusive, the child experiences a betrayal trauma that thwarts their sense of safety and prevents them from forming a healthy attachment relationship where-in co-regulation can occur (Cloitre et al., 2011; Freyd, 1996). In turn, the child misses out on opportunities for emotional attunement and scaffolding that would enable them to learn to regulate their arousal independently (Cloitre et al., 2011; Kim & Cicchetti, 2010). ER difficulties have been well-documented among children and adolescents who have been maltreated (see Gruhn & Compas, 2020 for review). For instance, CM is associated with deficits in emotional understanding (Edwards et al., 2005; Shipman et al., 2005), heightened emotional lability (Kim-Spoon et al., 2013) and impulsivity (Wardell et al., 2016), lower levels of adaptive ER skills (Amédée et al., 2019), and increases in

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the salience of negative emotional stimuli (McLaughlin et al., 2015). The effect of CM on ER may also persist into adulthood (Choi et al., 2014; Jennissen et al., 2016), resulting in chronic emotional dysregulation (Cloitre et al., 2005; Warmingham et al., 2022).

According to Gratz and Roemer (2004), emotional dysregulation is characterized by impairments in emotional awareness, clarity, understanding, and acceptance, as well as the ability to engage in goal-directed behaviours, inhibit impulses in the face of negative emotions, and modulate emotional responses by flexibly selecting appropriate regulatory strategies. The relative absence of any, or all, of these abilities is indicative of ER difficulties. A history of CM has been consistently associated with ER difficulties in adults (Burns et al., 2010; Carvalho Fernando et al., 2014; Dereboy et al., 2018; Oshri et al., 2015) and when compared to those who have experienced non-interpersonal traumas or late-onset interpersonal traumas, adults who have experienced CM report the highest levels of ER difficulties, psychological distress, and psychopathology (Choi & Kangas, 2020; Ehring & Quack, 2010; Goldsmith et al., 2013). More specifically, Ehring and Quack (2010) found that survivors of early-onset chronic interpersonal trauma endorsed higher levels of ER difficulties, which were positively associated with the severity of survivors' post-traumatic stress symptoms. A study by Goldsmith and colleagues (2013) yielded similar findings in that ER difficulties mediated the link between high betrayal trauma (i.e., physical, sexual, or emotional maltreatment perpetrated by someone to whom the victim was close) and symptoms of intrusion, avoidance, depression, and anxiety.

Extending these findings to the context of parenting, Choi and Kangas (2020) demonstrated that a history of high betrayal trauma was positively associated with maternal ER difficulties, maternal distress, and reduced child well-being. Given that ER difficulties are a transdiagnostic factor linking CM with psychopathology (Weissman et al., 2019), and the fact that children born to mothers with a history of CM are prone to mental health problems (Plant et al., 2018), it is crucial to understand how emotional dysregulation can impact parenting and elucidate the mechanisms involved in the transmission of ER difficulties to children (Rutherford et al., 2015).

Child Maltreatment and Parenting Problems

In a meta-analysis consisting of 32 studies, Savage et al., (2019) found a small, but statistically significant association between a maternal history of CM and maladaptive parenting behaviours (e.g., hostility, intrusiveness, and dysfunctional parent-child interactions). The ability to regulate emotions is crucial in the context of parenting (Dix, 1991; Rutherford et al., 2015) and ER difficulties may be one mechanism that explains the association between CM and parenting problems. Several studies have shown that maternal capacities for cognitive and emotional control are predictive of the ability to engage in supportive and warm parenting behaviours (see Crandall et al., 2015 for review). Conversely, when parents become overwhelmed by their emotions, this arousal is thought to undermine the ability to engage in adaptive parenting and can contribute to more negative parent-child interactions (Dix, 1991; Barros et al., 2015).

Adults with a history of CM may be particularly vulnerable to becoming overwhelmed during the parenting process, since witnessing their child in a dysregulated state may provoke intense emotional reactions within themselves that they do not have the capacity to regulate (Buisman et al., 2018; England-Mason et al., 2018). Accordingly, parents with a history of CM reported more ER difficulties and endorsed or exhibited more maladaptive parenting behaviours when compared to those without such histories or those who reported lower levels of maltreatment (Harel & Finzi-Dottan, 2018, McCullough et al., 2014; McCullough et al., 2015). For example, parents with a history of CM were more likely to deliver harsh punishments, use punitive discipline tactics, or ignore their child for doing something wrong when compared to parents without such histories (Harel & Finzi-Dottan, 2018). Similarly, McCullough and colleagues (2014) found that mothers who were classified into a negative parenting group, which was characterized by high levels of parental hostility, psychological control, and psychological unavailability, were more likely to report higher levels of childhood emotional abuse and lower levels of ER.

ER may be an important factor in determining whether or not adults with a history of CM will struggle in the parental role. Choi and Kangas (2020) found that mothers with a history of high betrayal trauma (including CM) were more likely to experience parenting stress when maternal ER difficulties were moderate or high, however the relationship between betrayal trauma and maternal distress became non-significant when mothers reported low levels of ER difficulties. Likewise, McCullough and colleagues (2015) found that mothers who had experienced high levels of CM were more likely to engage in negative parenting behaviours (i.e., hostility, psychological control, and unavailability) in the context of high levels emotional dysregulation, but were not at risk for these behaviours if emotional dysregulation was low. Thus, ER appears to moderate the relationship between a parental history of CM and parenting problems. As ER difficulties increase, parenting may become compromised.

The Impact of Cumulative Trauma

Although a history of CM may contribute to parenting problems, one shortcoming of empirical research is the tendency to focus on specific subtypes of CM in isolation (see Hughes & Cossar, 2016 and Hugill et al., 2017 for reviews on childhood emotional maltreatment and sexual abuse, respectively). In actuality, different forms of CM are likely to co-occur (Burczycka & Conroy, 2017; Matsumoto et al., 2021) and there appears to be a dose-response relationship between cumulative experiences of CM and the severity of adult psychopathology and interpersonal problems (Steine et al., 2017). Parenting is an emotionally demanding interpersonal process wherein parents are continually confronted with the need to regulate their own emotions while simultaneously engaging in co-regulation with a distressed child (Barros et al., 2015; Rutherford et al., 2015). Poole and colleagues (2018) found that the relationship between cumulative adverse childhood experiences and interpersonal difficulties was mediated by emotional dysregulation and as such, parents who have experienced multiple forms of CM may be more likely to experience emotional difficulties in the context of parent-child interactions. In support of this notion, cumulative exposure to adverse childhood experiences has been associated with higher levels of parental distress (Steele et al., 2016). However, more research is needed to understand how cumulative experiences of CM might impact parental ER and parenting behaviours.

Parental Emotion Socialization and the Transmission of Emotion Regulation Difficulties

One aspect of parenting that is understudied in survivors of CM is emotion socialization. Theoretical frameworks of emotion socialization posit that the development of children's ER skills is influenced by parental modelling of emotions and their regulation, parents' emotionrelated socialization behaviors (ERSBs), as well as the emotional climate of the family (Eisenberg et al., 1998; Morris et al., 2007). Of these various mechanisms, parental ERSBs – and parents' contingent responses to their children's emotions in particular – may be especially influential since these responses provide the child with direct, explicit, and immediate feedback when feelings are expressed; which in turn, teaches the child about which emotions are acceptable as well as the interpersonal consequences for specific types of emotional displays (Eisenberg et al., 1998; Thompson, 2014).

Given that negative emotions (e.g., sadness, anger, anxiety) are associated with higher levels of arousal (Cacioppo et al., 2000), and are thus more difficult to regulate (Nezlek & Kuppens, 2008), unsupportive reactions to children's negative emotions may be especially harmful to their emotional development (Hurrell et al., 2015; Sanders et al., 2015). For instance, if a parent exudes distress in response to their child's sadness, tells the child that they are "getting upset over nothing", or punishes the child for crying, the child may learn that their sadness is unacceptable or that their tears are shameful, which could teach the child to suppress or inhibit their negative feelings in the future (see Cabecinha-Alati, Langevin, Kern et al., 2020 for children; McNeil & Zeman, 2021 for adolescents; and Krause et al., 2003 for young adults). There is also evidence to suggest that parents' attention to and regulation of their own emotions (i.e., parental modelling) may not necessarily contribute directly to children's use of constructive regulation strategies. Instead, the relationship between these variables and children's adaptive ER appears to occur indirectly through their influence on parents' supportive response behaviours (Meyer et al., 2014). Conversely, negative emotional expressiveness in a parent's family of origin as well as the parent's current negative emotionality may impair the ability to engage in emotional scaffolding (Baker & Crnic, 2005) and contribute to the use of unsupportive contingencies (e.g., punitive and minimizing responses) when children express negative emotions (Fabes et al., 2001; Mirabile, 2014). Taken together, these findings emphasize the primacy of parents' contingent responses in the emotion socialization process as well as the importance of studying unsupportive responses to negative emotions.

Parents' use of unsupportive contingencies in response to children's negative emotions has been associated with higher levels of expressive suppression (Gunzenhauser et al., 2014), lower levels of socio-emotional competence (Jones et al., 2002), and internalizing difficulties (Sanders et al., 2015). Similar findings have been produced in adolescent samples, where unsupportive contingencies have been linked to higher levels of depressive symptoms (Shortt et al., 2016) and negative emotionality (Briscoe et al., 2019). Parental characteristics – such as emotional reactivity and parental ER skills - can influence child and adolescent outcomes indirectly through their influence on emotion socialization (Morris et al., 2007). Parents who have difficulty tolerating negative emotions may be more likely to become dysregulated in response to their child's negative affect and react with unsupportive contingencies that minimize or punish the child's expressions of distress to mitigate their own arousal (Barros et al., 2015). Indeed, mothers' self-reported ER difficulties have been associated with unsupportive contingencies in response to children (Han et al., 2015; Morelen et al., 2016) and adolescents (Buckholdt et al., 2014; Jones et al., 2014), which in turn, were associated with emotional dysregulation and psychopathology amongst these youth. Consequently, parents' use of unsupportive contingencies may contribute to the intergenerational transmission of ER difficulties to children (Li et al., 2019) and adolescents (Buckholdt et al., 2014), and this effect may persist into adulthood.

The Impact of Unsupportive Contingencies on Adult Outcomes

Extant literature suggests that parents' use of unsupportive contingencies have the potential to influence a child's affective stance towards emotions and shape their regulatory abilities for years to come (Eisenberg et al., 1998; DeOliveira et al., 2004; Perry et al., 2017). In support of this notion, retrospective reports of unsupportive contingencies in childhood have been positively associated with psychological distress (Krause et al., 2003; Ramakrishnan et al., 2019), trait anger (Leerkes et al., 2015), trait anxiety (Cabecinha-Alati et al., 2019), and internalizing symptoms (Guo et al., 2019; Leerkes et al., 2015) in adulthood. Furthermore, Cao

and colleagues (2018) found that the relationship between remembered unsupportiveness in childhood and post-partum depression in adulthood was mediated by maternal ER difficulties.

Only one study to our knowledge has examined the impact of ERSBs in adolescence on adult outcomes (Lugo-Candelas et al., 2016). This is surprising since adolescence is a critical period for neurological maturation and the emergence of new psychosocial challenges that necessitate increasingly sophisticated ER abilities (Yap et al., 2007; Zimmerman & Iwanski, 2014). Moreover, unsupportive contingencies – such as punitive reactions or ignoring the child's emotional expressions – may be more prevalent in adolescence (Klimes-Dougan et al., 2007; O'Neal & Magai, 2005) because parents expect greater autonomy and emotional competence as their children grow and adjust their ERSBs accordingly (Brand & Klimes-Dougan, 2010; Zeman et al., 2013). Lugo-Candelas and colleagues (2016) found that recollections of unsupportive contingencies in adolescence were positively associated with stress, anxiety, and depressive symptoms in young adults. These symptoms of psychopathology may be indicative of underlying ER difficulties (Sloan et al., 2017) and as such, more research is needed to elucidate the mechanisms involved in the transmission of risk to young adults.

Child Maltreatment and the Transmission of Risk via Emotion Socialization

Research on the transmission of risk to children and adolescents of mothers with a history of CM demonstrate that these youth are at an increased risk for psychopathology and suggest that poor parenting may explain this association (see Plant et al., 2018 for review). However, a substantial portion of parents who have been maltreated do not go on to abuse or neglect their own children (Schelbe & Geiger, 2017). As such, it is important to identify other parenting behaviours through which the intergenerational transmission of risk may occur. Leerkes and colleagues (2020) found that mothers who rated their own parents as high on unsupportive contingencies during childhood were more likely to endorse negative and self-focused beliefs when their own infants were distressed, which in turn, predicted lower levels of supportive responses to negative emotions when their children were toddlers. Consequently, the transmission of emotion socialization across generations may be explained in part by social learning theory such that adults who were maltreated as children may model the ERSBs that they observed from their parents during their own childhoods (Bandura, 1997; Belsky et al., 2009).

Several studies have shown that maltreating parents exhibit various deficiencies in emotion socialization including lower levels of emotion-related discussion (Edwards et al., 2005; Shipman & Zeman, 1999), higher levels of emotional invalidation (Shipman et al., 2007), and lower levels of emotional encouragement and coaching (Shipman & Zeman, 2001; Thomas et al., 2011) when compared to their non-maltreating counterparts. Congruently, children who were abused or neglected reported that they expected less support from their parents and more relational conflict when they expressed feelings of anger and sadness (Shipman et al., 2000; 2005). These findings suggest that children who grow up in maltreating environments may be less likely to be exposed to parents who model supportive response behaviours, thereby contributing to a lack of supportive contingencies when they become parents themselves (Rea & Shaffer, 2016). Likewise, children who are maltreated may be more likely to be exposed to parents who model emotionally unsupportive behaviours, which in turn, could make them more likely to use unsupportive contingencies with their own children.

Expanding on these findings, Cabecinha-Alati, Langevin, and Montreuil (2020) introduced a novel conceptual model that aimed to elucidate the mechanisms involved in the intergenerational transmission of emotional dysregulation in the context of a parental history of CM (see Figure 1).



Figure 1. A conceptual model of the intergenerational transmission of emotion regulation difficulties in the context of a parental history of child maltreatment. From Cabecinha-Alati, Langevin & Montreuil (2020). In line with previous research, they proposed that a history of CM may contribute to unsupportive contingencies and the transmission of ER difficulties through direct mechanisms (i.e., social learning). However, they also identified indirect mechanisms (i.e., parental ER difficulties) that may influence parental emotion socialization. A recent study by Milan and colleagues (2021) showed that mothers with a history of CM recalled being subjected to more unsupportive contingencies during childhood, which predicted their own use of unsupportive contingencies when their children expressed negative emotions. Similarly, Cabecinha-Alati, Langevin, Kern and Montreuil (2020) found that a cumulative history of CM was positively associated with parents' unsupportive contingencies in response to their school-aged children and this relationship was partially explained by deficits in parental ER skills. They also found that unsupportive contingencies were linked with higher levels of emotional inhibition in children. Thus, in line with the conceptual model, a parental history of CM may contribute to unsupportive contingencies and the intergenerational transmission of emotional dysregulation through direct (i.e., social learning) and indirect (i.e., parental ER difficulties) mechanisms.

Child Maltreatment and its Sequela: A Constellation of Risk and Protective Factors

Concomitant with ER difficulties, the conceptual model by Cabecinha-Alati and colleagues (2020) also identified other stressors associated with a history of CM that may influence parental emotion socialization by increasing the risk of engaging in unsupportive behaviours. Firstly, individuals who have been abused or neglected as children are at an increased risk for developing insecure attachment styles (Baer & Martinez, 2006; Owen et al., 2012) and experiencing interpersonal revictimization in the form of physical, psychological, and sexual violence in adolescence and adulthood (Widom et al., 2008; Werner et al., 2016). The former may also contribute to the latter (Hocking et al., 2016) in that anxious attachment appears

to mediate the relationship between a history of CM and intimate-partner violence victimization. Likewise, revictimization can exacerbate ER difficulties (Walsh et al., 2011), which in turn, increases the risk for further experiences of revictimization (Messman-Moore et al., 2010).

Revictimization and Emotion Socialization

Studies examining the impact of cumulative interpersonal trauma on parenting have shown that exposure to interpersonal violence in both childhood *and* adulthood is associated with more negative parenting behaviours. For example, relative to mothers who were victimized exclusively during childhood or adulthood, mothers who were victimized during both periods reported higher levels of harsh parenting behaviours including verbal aggression and minor violence tactics when disciplining children (Dubowitz et al., 2001). A more recent study by Stephenson and Renk (2019) showed similar results such that mothers who were exposed to intimate partner violence during childhood were more likely to engage in punitive parenting behaviours (e.g., corporal punishment) when they had also experienced high levels of intimate partner violence in adulthood.

With respect to emotion socialization more specifically, destructive interparental conflict (which overlaps considerably with intimate partner violence; Kopystynska & Beck, 2018) has been associated with parents' use of unsupportive contingencies in response to their toddler's negative emotions (Lee & Brophy-Herb, 2018). Similarly, Martin and colleagues (2018) found that mothers who experienced interpersonal revictimization (i.e., abuse perpetrated by someone close to them in both childhood and adulthood) were more likely report unsupportive contingencies (i.e., distress reactions) when their teenager's expressed negative emotions. Although this effect appeared to be explained by maternal ER difficulties, a limitation of this research is that revictimization was represented by a dichotomous variable, which may have obscured the impact of cumulative experiences of revictimization. Given that cumulative CM is associated with a greater risk of experiencing multiple types of interpersonal victimization later in life (Edalati et al., 2016), it is important to determine whether individuals who have experienced multiple forms of revictimization are more likely to use unsupportive contingencies.

Attachment and Emotion Socialization

Another adverse impact of cumulative CM is higher levels of attachment insecurity (Godbout et al., 2017; Stewart et al., 2021), which can compromise various dimensions of parenting (see Jones et al., 2015 for review). Abaied and Rudolph (2010) found that mothers with insecure attachment styles were less likely to provide guidance on adaptive coping for their children and instead, were more likely to encourage their children to adopt disengaged methods of coping such as avoiding or denying their feelings of stress. As such, mothers who are high on attachment insecurity may be more prone to using unsupportive contingencies. In support of this notion, higher levels of attachment avoidance directly predicted mothers' use of punitive and minimizing responses to adolescents' negative emotions, while the relationship between attachment anxiety and unsupportive contingencies only occurred through maternal ER difficulties (Jones et al., 2014). This suggests that insecure attachment in adulthood may have unique effects on mothers' use of unsupportive contingencies depending on which dimension of attachment is being examined.

In addition to their impact on parenting, anxious and avoidant attachment styles may also contribute to more negative perceptions of the parent-child relationship (Berlin et al., 2011). Compared to mothers without a history of abuse, mothers who have experienced CM may be more likely to perceive their infant's temperament as "difficult" (Casanueva et al., 2010) and may have unrealistic expectations that lead them to make negative attributions about their child's behaviour (Dixon et al., 2005; Malone et al., 2010). The parent-child relationship may become even more challenging during adolescence as teens strive for greater autonomy and individuation from their parents, resulting in elevated levels of conflict, negative emotionality, and lower levels of maternal supportiveness (De Goede et al., 2009). Mother-adolescent dyads who respond to one another by flexibly adjusting their emotional states tend to report better relationship quality than those who struggle to adapt to changing emotional contexts (Lougheed & Hollenstein, 2016). Similarly, more positive perceptions of the mother-adolescent relationship have been associated with the successful interpersonal regulation of emotional arousal (Lougheed et al., 2016). Maternal warmth appears to be a key factor involved in breaking intergenerational cycles of CM (Jaffee et al., 2013), and parent-child relationships characterized by openness, warmth, and mutual responsiveness appear to facilitate parents' use of supportive contingencies during adolescence (Criss et al., 2016). Consequently, mothers who are motivated to "parent differently" by promoting positive communication and relationships with their children may be less likely to perpetuate maladaptive cycles of parenting (Chamberlain et al., 2019).

Trauma-Related Psychopathology and Emotion Socialization

On top of the interpersonal factors outlined above, a history of CM has also been associated with factors on the individual level that can impact parenting. Concomitant with ER difficulties, individuals who were maltreated as children are more likely to experience psychological difficulties such as post-traumatic stress disorder (PTSD; Schechter et al., 2015) and dissociative symptoms (Marysko et al., 2010) that can negatively impact parenting. Furthermore, these mental health difficulties appear to be more pronounced in those with cumulative experiences of childhood trauma (Kennedy et al., 2021; Zerach & Elklit, 2020). Studies on the relationship between PTSD and parenting have shown that post-traumatic stress symptoms are associated with lower levels of behavioural and affective sensitivity (Muzik, Bocknek, et al., 2013) and higher levels of parenting stress (Cross et al., 2018; Samuelson et al., 2017). Mothers with PTSD may also be less aware of their child's feelings, which could make it more difficult for them to identify their child's negative emotions and engage in supportive response behaviours (Gottman et al., 1996; Johnson & Lieberman, 2007; Schechter et al., 2014). Only one study to our knowledge has examined the relationships between interpersonal victimization, PTSD, and parents' ERSBs (Gurtovenko & Katz, 2020). In this study, the authors demonstrated that mothers who were victims of intimate-partner violence were more likely to endorse unsupportive contingencies in response to their child's negative affect, but only when they reported high levels of post-traumatic stress symptoms and low levels of ER. There was no association between post-traumatic stress symptoms and unsupportive contingencies at average and high levels of ER (Gurtovenko & Katz, 2020). Consequently, traumatized mothers who can successfully modulate their arousal may not be as susceptible to unsupportive contingencies.

Congruent with the pattern observed in PTSD, mothers who experienced interpersonal trauma in childhood, as well as revictimization in adulthood, reported higher levels of dissociation when compared to mothers who were not revictimized (Hulette et al., 2011). When conceptualized as an ER strategy, dissociation may protect individuals from overwhelming hyperarousal by allowing them to psychologically disengage from distress or threatening environments (Lewis et al., 2020; Moser et al., 2013). While dissociation may have developed as an adaptive strategy to protect victims of interpersonal trauma from chronic stress, the tendency to dissociate can become maladaptive if it generalizes to the mother-child relationship and impairs mothers' sensitivity or responsiveness toward her child (Moser et al., 2013). For

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instance, Schechter and colleagues (2015) found that the severity of mothers' dissociative symptoms was positively correlated with alexithymia (i.e., difficulty identifying feelings), which in turn, was negatively associated with mothers' sensitivity during behavioural observations of mother-child play. Individuals prone to dissociation also tend to display lower levels of cognitive empathy (Chiu et al., 2016) and this association was partially explained by deficits in emotional awareness, which is a pre-requisite for emotion socialization (Gottman et al., 1996).

Together, these findings suggest that mothers who struggle with PTSD or dissociative symptoms may have difficulty identifying their child's emotional states or may struggle to regulate their own emotions in such a way that would enable them to respond sensitively toward their child's distress. However, more research is needed to determine whether these traumarelated psychopathologies have unique effects on ERSBs that are distinct from the impact of maternal ER difficulties.

Demographic Factors and Emotion Socialization

Lastly, it is also important to consider demographic factors that might influence ERSBs. Numerous studies have identified a link between a history of CM and teenage motherhood (Garwood et al., 2015; Kugler et al., 2019; Trickett et al., 2011). For example, girls who experienced CM (i.e., physical abuse, sexual abuse, or neglect) were twice as likely to become teen mothers when compared to those who had not experienced CM (Noll & Shenk, 2013). Furthermore, although physical abuse and sexual abuse have both been independently associated with an increased risk of teen pregnancy, the strongest effect occurred when the co-occurrence of sexual and physical abuse was examined (Madigan et al., 2014), demonstrating the deleterious effect of cumulative CM on teen pregnancy outcomes. Given the associations between teenage motherhood, post-partum psychopathology, and increased parenting stress (Flaherty & Sadler, 2022; Madigan et al., 2014), young mothers may experience even more difficulty in the context of parenting. Indeed, relative to mothers who are older at childbirth, adolescent mothers tend to experience higher levels of psychological difficulties (Madigan et al., 2014), in part because they may experience more difficulty reorganizing their attachment system and recovering from experiences of interpersonal trauma (Bailey et al., 2007; Madigan et al., 2016). McCullough and colleagues (2015) found that mothers who endured high levels of CM and who were also younger at childbirth (i.e., mean age = 17.95 years) were more likely to engage in unsupportive parenting behaviours (i.e., psychological control, hostility, and unavailability) when compared to older mothers with similar abuse histories, and this was regardless their level of ER difficulties. Consequently, becoming parent at a young age may also have negative impacts on ERSBs that are independent from ER.

With respect to other demographic variables, young parents are also prone to other disadvantages including single parenthood, poverty, lower levels of educational attainment, and job instability (Serbin & Karp, 2004; Fallon et al., 2011), which can exacerbate parenting stress (Steele et al., 2016). Shaffer and colleagues (2012) found that higher scores on the familial risk index – which assessed single parent status, household overcrowding, low maternal educational attainment, low household income, and maternal psychological distress – were associated with higher levels of unsupportive contingencies in response to children's negative emotions. Conversely, mothers with higher levels of education and income reported being more likely to use supportive contingencies and less likely to use unsupportive contingencies (Lugo-Candelas et al., 2016; Leerkes et al., 2020). Finally, ethnocultural differences (e.g., in emotion-related beliefs, attitudes towards emotions, and socialization goals) can also influence parents'

contingent responses toward their children's emotions (Camras et al., 2014) and the way that youth perceive and react to their parents' ERSBs (Leerkes et al., 2015; Perry et al., 2017). Thus, it is important to consider the influences of ethnicity, maternal age, economic status, and education when studying parental ERSBs.

Research Objectives

Several studies have been conducted on emotion socialization in maltreating families (Edwards et al., 2005; Shipman & Zeman, 1999; 2001, Shipman et al., 2000; 2005; 2007; Thomas et al., 2011), revealing various deficiencies in parents' ERSBs. More recent research suggests that unsupportive ERSBs may be transmitted across generations and can negatively impact parenting amongst survivors of CM (Leerkes et al., 2020). However, only a handful of studies have examined CM as a determinant of parents' ERSBs (Choi & Kang, 2021; Rea & Shaffer, 2016) and the mechanisms through which a history of CM might contribute to unsupportive emotion socialization (Cabecinha-Alati et al., 2020; Martin et al., 2018). In line with the conceptual model introduced by Cabecinha-Alati and colleagues (2020), the goal of this program of research is to investigate the mechanisms involved in the intergenerational transmission of emotional dysregulation and to elucidate how different stressors and supports associated with the sequalae of CM may influence parental ERSBs.

CM is a pervasive public health problem (Stoltenborgh et al., 2015) and parents with a history of CM are more likely to struggle in the parental role due to mental health problems that may be indicative of underlying ER difficulties (Christie et al., 2017; Weissman et al., 2019). Despite evidence of the relationships between CM and ER difficulties in adulthood (Burns et al., 2010; Carvalho-Fernando et al., 2014; Dereboy et al., 2018) and CM and maladaptive parenting behaviours (see Greene et al., 2020 and Savage et al., 2019 for reviews), only two studies have

examined how a history of CM and subsequent difficulties with ER might impact parents' ERSBs (Martin et al., 2018; Cabecinha-Alati, Langevin, Kern, et al., 2020). Furthermore, although unsupportive contingencies in childhood can contribute to emotional difficulties in adulthood (Cao et al., 2018; Ramakrishnan et al., 2019), research examining the long-term impact of exposure to unsupportive contingencies in adolescence is sparse (see Lugo-Candelas et al., 2016 for an exception).

To address these gaps in the literature, Study 1 aimed to determine whether a maternal history of CM would be associated with ER difficulties in young adult offspring through their recollections of their mothers' unsupportive contingencies during adolescence. In line with previous research on ER and emotion socialization (Buckholdt et al., 2014; Morelen et al., 2016), maternal ER difficulties were examined as a moderator of the relationship between mothers' CM histories and unsupportive contingencies. Elucidating the mechanisms involved in the intergenerational transmission of emotional dysregulation is of paramount importance, since children of mothers with a CM history are more likely to experience psychological and emotional difficulties (Su et al., 2020) that can contribute to maladaptation.

Secondly, given that parenting is one potential mechanism linking a maternal history of CM with poor outcomes in offspring (Plant et al., 2018) and the fact that CM may contribute to parenting problems through multiple different pathways (Morelen et al., 2018), the goal of Study 2 was to examine the relative contributions of CM, ER, and other multilevel stressors and supports to mother's unsupportive contingencies. Identifying stressors and supports that can perpetuate, or discourage, unsupportive parenting has the potential to illuminate new avenues for prevention and intervention initiatives that can support parents with a history of CM and ensure the healthy emotional development of children in future generations.

Chapter III

Study 1

The role of maternal child maltreatment history and unsupportive emotion socialization in the

intergenerational transmission of emotion regulation difficulties

Sarah Cabecinha-Alati

Tina Montreuil

Rachel Langevin

McGill University

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Abstract

Background: Maternal mental health problems and poor parenting are thought to account for the intergenerational transmission of poor outcomes to offspring of mothers who have experienced child maltreatment. Objective: Given that emotion regulation (ER) difficulties have been linked to adult psychopathology and maladaptive parenting, the goal of the present study was to examine the mechanisms through which a maternal history of child maltreatment, and subsequent difficulties with ER, might contribute to unsupportive emotion socialization and the intergenerational transmission of ER difficulties. Participants and Setting: Mothers and their young adult children (aged 18-25) were recruited from across Canada to participate in an online study (N = 185 dyads). Methods: Mothers responded to questionnaires assessing their child maltreatment histories and ER difficulties. Young adults retrospectively reported on their mothers' emotion socialization behaviours in adolescence as well as their own difficulties with ER. **Results:** A moderated mediation analysis revealed that mothers who endorsed more types of child maltreatment were described as using more unsupportive contingencies, but only in the context of high levels of maternal ER difficulties. The indirect effect of maternal child maltreatment on young adults' ER difficulties was only significant for mothers with high levels of ER difficulties. More specifically, maternal difficulties with impulse control and emotional clarity contributed to more unsupportive contingencies. Conclusions: Mothers who have experienced multiple forms of child maltreatment may be more likely to struggle with ER and engage in unsupportive emotion socialization behaviours, which may increase the risk of emotional difficulties in their children. Survivors of child maltreatment should have access to interventions that promote ER skills to improve their own well-being and to prevent the transmission of ER difficulties to future generations.

Key words: Child maltreatment; Emotion regulation; Parenting; Intergenerational transmission

Numerous studies have demonstrated that individuals born to mothers with a history of child maltreatment are susceptible to mental health problems (see Plant et al., 2018 for review). Further, maternal mental health problems and poor parenting have been identified as mediators of this association. Given that emotion regulation (ER) difficulties are a transdiagnostic factor underlying psychopathology (Sloan et al., 2017) and that ER difficulties can also contribute to parenting problems (Rutherford et al., 2015), the goal of the present study is to understand how ER difficulties affect parenting among survivors of child maltreatment and to elucidate the mechanisms involved in the intergenerational transmission of ER difficulties.

The Impact of Child Maltreatment on Emotion Regulation and Parenting

According to Gratz and Roemer (2004), emotional dysregulation is characterized by ER difficulties in domains including emotional awareness, clarity, understanding, and acceptance, as well as in the ability to engage in goal-directed behaviours, inhibit impulses, and modulate emotional reactions by selecting appropriate regulatory strategies. When a child's primary caregiver is neglectful or abusive, the child misses out on opportunities for emotional attunement and scaffolding that would enable them to develop these ER skills (Cloitre et al., 2011; Kim & Cicchetti, 2010). Consequently, ER difficulties can develop as a result of child maltreatment (Gruhn & Compas, 2020) and evidence suggests that they can persist into adulthood (Carvalho Fernando et al., 2014; Jennissen et al., 2016).

Another consequence of child maltreatment is the negative impact it has on parenting. In a meta-analysis of 32 studies, Savage et al. (2019) found a small, but significant association between maternal histories of child maltreatment and negative parenting behaviours (e.g., corporal punishment, intrusiveness, hostility). Parenting is a demanding interpersonal process wherein parents must regulate their own arousal while simultaneously engaging in emotional coregulation with a distressed child (Rutherford et al., 2015). Concomitantly, there is evidence to suggest that ER difficulties may contribute to maladaptive parenting behaviours among those with a history of child maltreatment (Harel & Finzi-Dottan, 2018; McCullough et al., 2014). However, these studies examined specific subtypes of child maltreatment, rather than looking at the cumulative effects of these experiences.

Cumulative exposure to childhood adversity has been linked to higher levels of parental distress (Steele et al., 2016), ER and interpersonal difficulties (Poole et al., 2018), as well as increasingly complex manifestations of adult psychopathology (Putnam et al., 2013). Unfortunately, exposure to multiple different types of child maltreatment (i.e., polyvictimization) is common (Matsumoto et al., 2021) and evidence suggests that the cumulative impact of two or more types of childhood victimization is greater than the sum of their individual effects (Putnam et al., 2013). As such, there is a need for more studies that consider the cumulative impact of child maltreatment on ER and parenting behaviours.

Parental Emotion Socialization and the Impact of Unsupportive Contingencies

One set of parenting behaviours that is understudied in survivors of child maltreatment is emotion socialization. According to Morris et al.'s (2007) Tripartite Model of Emotion Socialization, the development of children's ER skills is influenced by (a) parental modelling, (b) parents' emotion-related socialization behaviours, and (c) the emotional climate of the family. Parents' emotion-related socialization behaviours are a particularly important method of emotion socialization because parents' responses to their children's emotional expressions represent a direct method of contingency learning wherein the way the parent reacts to their child teaches the child which emotions are acceptable as well as the interpersonal consequences for specific emotional displays (Eisenberg et al., 1998; Thompson, 2014). Parental ER is also thought to have indirect effects on children's ER by influencing parents' emotion-related socialization behaviours (Morris et al., 2007). For instance, if a parent is unable to regulate their own negative arousal and becomes overwhelmed in response to their child's crying, the parent might be more prone to using unsupportive contingencies (e.g., punishing the child) in order to alleviate their own distress (Barros et al., 2015). In turn, this communicates to the child that their sadness is shameful or unacceptable rather than fostering adaptive ER skills. Consequently, parents who struggle with ER may be more likely to use unsupportive contingencies, which can influence a child's affective stance towards emotions and shape their regulatory abilities well into the future (Eisenberg et al., 1998; Perry et al., 2017).

In support of this notion, maternal ER difficulties have been positively associated with unsupportive contingencies such as punitive and minimizing reactions, which in turn, were associated with ER difficulties in children and adolescents (Buckholdt et al., 2014; Han et al., 2015). Recollections of parents' unsupportive contingencies in childhood have also been linked to emotional inhibition (Krause et al., 2003), psychological distress (Ramakrishnan et al., 2019), trait anxiety (Cabecinha-Alati et al., 2019), and internalizing symptoms (Cao et al., 2018; Leerkes et al., 2015) in adulthood. Only one study has examined the relationship between unsupportive contingencies in adolescence and adult outcomes (Lugo-Candelas et al., 2016) and the findings revealed positive associations with anxiety, depression, and stress. The scant literature focusing on emotion socialization during the teenage years and adult outcomes is surprising given that adolescence is a critical period for neurological maturation and the emergence of new psychosocial challenges that necessitate more sophisticated ER abilities (Yap et al., 2007; Zimmermann & Iwanski, 2014). Moreover, unsupportive contingencies may be more prevalent in adolescence (Klimes-Dougan et al., 2007; O'Neal and Magai, 2005) since parents have higher expectations for autonomy and emotional competence (Brand and Klimes-Dougan, 2010; Zeman et al., 2013). The association between unsupportive contingencies in adolescence and poor mental health in adulthood may be attributable to underlying ER difficulties (Gross & Jazaieri, 2014), however more research is needed to establish these links.

The Present Study

Preliminary evidence from our previous study suggests that cumulative victimization in childhood and deficits in parental ER skills may contribute to unsupportive contingencies that can negatively impact children's ER (Cabecinha-Alati et al., 2020). However, no studies to date have investigated whether unsupportive contingencies in adolescence can have adverse effects on ER in adulthood. Additionally, the mechanisms involved in the intergenerational transmission of poor outcomes to children of mothers who have experienced child maltreatment require further investigation since understanding these pathways can help identify specific parenting behaviours and dimensions of ER that can serve as targets for prevention and intervention. As such, the present study aims to examine the interplay between a maternal history of child maltreatment, maternal ER difficulties, young adults' recollections of mothers' unsupportive contingencies during adolescence, and ER difficulties in young adults. We hypothesize that maternal ER difficulties will moderate the association between a maternal history of child maltreatment and unsupportive contingencies such that the effect of child maltreatment on maternal unsupportiveness will be greater for mothers with higher levels of ER difficulties. Additionally, maternal unsupportive contingencies in adolescence are expected to mediate the association between mothers' child maltreatment experiences and young adults' current ER difficulties. Lastly, exploratory analyses will be conducted in order to identify specific dimensions of ER that might be associated with mothers' unsupportive contingencies.

Methods

Participants

Mothers and their young adult children (aged 18–25) were recruited from across Canada using social media (e.g., Facebook ads), online research platforms (e.g., Research Stream, Honeybee), and ads that were distributed through departmental listservs at Canadian universities. The initial sample included 1218 participants (409 mothers and 809 young adults). Cases were excluded if they were duplicate responses (n = 68), if participants did not provide a valid identification number or used the same email address for both members of the dyad (n = 39), if participants completed less than 75% of the survey (n = 36), or if participants were outside of the age range specified in our inclusion criteria (n = 69). Three measures were implemented in order to screen out careless responders. First, cases (n = 38) were excluded if the participant answered "no" to a question that asked them to indicate whether they felt that their data was valid. Second, participants (n = 121) were excluded if they failed to follow the instructions to more than 3 of the 5 directed questions that were randomly distributed throughout the survey. Lastly, participants (n = 17) were excluded if they completed the survey in less than half of the modal completion time. The final sample included 252 mothers, 578 young adults, and 185 complete dyads. Only complete dyads were included in the present study. See Table 1 for demographic characteristics of the mothers (M = 51.19 years old, SD = 5.81) and young adults (89.7% female, M = 20.88years old, SD = 2.18). The majority of participants (approximately 60%) reported that they resided in the provinces of Ontario or Quebec.

Table 1

Demographic Varia	bles		
Variables		Mother n(%)	Young adult n(%)
Gender	Female	185(100)	166(89.7)
	Male	0(0)	16(8.6)
	Non-binary or genderfluid	0(0)	2(1)

	Transgender	0(0)	1(.5)
Ethnicity ($n = 365$)	White	130(70.3)	127(68.6)
- 、 /	Asian	35(18.9)	35(18.9)
	Black	4(2.2)	4(2.2)
	Arab / Middle Eastern	4(2.2)	4(2.2)
	Hispanic	3(1.6)	3(1.6)
	Indigenous / Native American	3(1.6)	2(1.1)
	Mixed race	1(.5)	10(5.4)
Educational attainment			
(n = 368)	High school or less	34(18.4)	63(34.1)
	CEGEP or professional school	42(22.7)	25(13.5)
	Undergraduate degree or certificate	74(40)	83(44.9)
	Graduate degree	33(17.8)	14(7.6)
Annual household income			
(n = 314)	Less than \$20, 000	4(2.2)	37(20)
	\$20, 000 - \$59, 999	35(18.9)	43(23.3)
	\$60, 000 - \$99, 999	48 (26.0)	25 (13.5)
	\$100, 000 or more	76(41.0)	46(24.8)
Mental Health			
Consultation ($n = 359$)	No	87(47)	63(34.1)
	Yes	94(50.8)	115(62.2)
Mental Health Diagnosis			
(n = 355)	No	145(78.4)	116(62.7)
	Yes	34(18.4)	60(32.4)

Note: CEGEP = Collège d'enseignement général et professionnel (College of General and Vocation Education) is a precollege university program unique to Quebec that prepares students for postsecondary education.

Measures

Demographic Information

Participants were asked to provide demographic information including their gender,

ethnicity, educational attainment, annual household income, and the first three digits of their

postal code. Participants who had children were asked to indicate their age upon the birth of their

first child. Lastly, participants were asked to indicate whether they had ever consulted with a mental health professional or received a mental health diagnosis.

Maternal History of Child Maltreatment

Early Trauma Inventory Self-Report – Short Form (ETISR-SF; Bremner et al., 2007). Three subscales from the ETISR-SF were used to assess mothers' experiences of physical abuse (five items), sexual abuse (six items), and emotional maltreatment (five items). Mothers were asked to indicate whether they experienced specific acts of maltreatment prior to the age of 18 using a dichotomous (*Yes/No*) response format, for example, "Were you ever slapped in the face with an open hand by a parent or caregiver?". Questions pertaining to physical abuse and emotional maltreatment were specific to perpetration by a parent or caregiver while both intra and extrafamilial sexual abuse was included. The short form of the ETI has displayed good internal consistencies for its subscales (0.70–0.87) and similar to the long form, is able to distinguish between patients with known trauma histories and comparison subjects (Bremner et al., 2007). In the present study, internal consistencies for the physical abuse, sexual abuse, and emotional maltreatment subscales ranged from $\alpha = 0.80-0.87$.

IPSCAN Child Abuse Screening Tool – Retrospective Version (ICAST-R; Dunne et al., 2009). Five items from the ICAST-R were used to assess mothers' experiences of childhood neglect. The development of the ICAST-R was based on consensus from international experts in child protection and it has adequate measurement properties as a retrospective survey tool (Dunne et al., 2009). Mothers were asked to indicate whether they experienced specific acts of physical/supervisory neglect prior to the age of 18 using a dichotomous (*Yes/No*) response format. For example, "Were you ever not taken care of by your parent(s) or caretaker(s) when

you were sick or injured even though they could afford it?". In the present study, the neglect subscale demonstrated acceptable internal consistency ($\alpha = 0.71$).

Revised Conflict Tactics Scale (CTS2; Straus et al., 1996). The CTS2 is one of the most widely used instruments for assessing intimate partner violence and has been shown to have good psychometric properties (Chapman & Gillespie, 2019). Mothers were asked three questions that were adapted from the CTS2 to assess their exposure to intimate partner violence prior to the age of 18. For example, "Have you ever seen your mother or father shove, hit, or throw things at their partner?". Mothers responded to each question using a dichotomous (*Yes/No*) response format. The subscale had good internal consistency in the present study ($\alpha = 0.86$).

Cumulative child maltreatment. Similar to previous studies (Cabecinha-Alati et al., 2020; Edwards et al., 2017), the present study used a composite score to quantify mothers' experiences of child maltreatment. First, a dichotomous score (i.e., 0 or 1) was created for each type of child maltreatment that was endorsed. Participants who endorsed an item on any of the five subscales were classified as having experienced that type of child maltreatment. Second, a sum was computed to reflect the total number of maltreatment types that mothers reported ranging from 0 (no child maltreatment) to 5 (experienced all five types of child maltreatment).

Emotion Socialization

The Coping with Children's Negative Emotions Scale – Adolescents' Perceptions Version (CCNES-AP; Fabes & Eisenberg, 1998) was used to assess young adults' perceptions of their mothers' responses to their negative affect when they were adolescents (aged 13–17). Similar to the procedure outlined by Lugo-Candelas et al. (2016), the existing scale was modified by switching the nine vignettes into past-tense and asking participants to recall their adolescent years. For example, "When my mother saw me becoming anxious about something at school, she

would usually...". Six possible reactions were presented for each scenario and three subscales that assessed unsupportive contingencies were used: Distress Reactions (e.g., become nervous and uneasy in dealing with my anxiety), Punitive Reactions (e.g., get angry at me for not dealing with things better), and Minimizing Reactions (e.g., tell me that I was making too big a deal out of it). Responses were recorded on a 7-point Likert-type scale ranging from 1 (very unlikely) to 7 (very likely). Internal consistencies for these subscales were $\alpha = 0.91$, 0.92, and 0.91, respectively. A total score for mothers' unsupportive contingencies was computed by taking the average of the three subscales (e.g., Mezulis et al., 2015; Nelson et al., 2009).

Emotion Regulation Difficulties

The Difficulties in Emotion Regulation Scale – Brief Version (DERS-18; Victor & Klonsky, 2016) is an 18-item self-report measure that was administered to mothers and young adults. The DERS-18 has good internal consistency ($\alpha = 0.91$) and is considered a valid measure of emotional dysregulation (Victor & Klonsky, 2016). Participants were asked to indicate how they typically react to their emotions, for example, "When I'm upset, I have difficulty focusing on other things". Responses ranged from 1 (almost never; 0–10%) to 5 (almost always; 91–100%). Six subscales assessed difficulties in Awareness (lack of awareness regarding emotions), Clarity (lack of clarity regarding the emotions being felt), Nonacceptance (lack of acceptance for one's own emotions), Strategies (perceived inability to use ER strategies to regulate negative emotions), Goals (difficulty with goal-directed behaviour in the face of negative emotions), and Impulse (perceived inability to control one's impulses in response to negative emotions). The main analysis used the total score for mothers ($\alpha = 0.85$) and young adults ($\alpha = 0.86$). Maternal scores for Clarity ($\alpha = 0.84$), Strategies ($\alpha = 0.85$), Goals ($\alpha = 0.91$), and Impulse ($\alpha = 0.93$) subscales displayed high internal consistency, however the subscales measuring mothers'

difficulties with Awareness ($\alpha = 0.32$) and Nonacceptance ($\alpha = 0.29$) were excluded from exploratory analyses due to poor internal consistency in the present sample.

Procedure

Once the study received Research Ethics Board approval from the primary researcher's institution, measures were administered via an online survey that was hosted on the Qualtrics platform (Qualtrics, Provo, UT). Prior to completing the survey, participants provided their informed consent. The first participant was asked to fill out contact information for themselves as well as for the second member of their dyad. Subsequently, both participants received an automated invitation to complete the survey. The second member of the dyad was also sent a link to the consent form. Participants could complete the survey in English or French. Each participant who completed the survey in a mother-young adult pair was compensated with a five-dollar e-gift card. Every participant was entered into a draw for the chance to win an iPad, whether their other family member completed the survey or not.

Results

Preliminary Analyses

The data met the assumptions of linearity, the absence of multicollinearity, homoscedasticity, and normally distributed residuals. Missing data on the variables of interest was minimal (less than 1%) and Little's MCAR test, $\chi^2(7) = 5.76$, p = .57, revealed that data was likely missing completely at random. As such, listwise deletion was used to handle missing data (Tabachnik & Fidell, 2007).

Mothers' victimization characteristics. Descriptive analyses showed that 64.3% of mothers reported experiencing at least one type of child maltreatment. Furthermore, 16.2% of the sample reported experiencing two types of child maltreatment, 11.4% reported three types,

13.5% reported four types, and 5.9% of mothers reported experiencing all five types of child maltreatment. Victimization rates for each subtype of maltreatment are displayed in Table 2.

Mothers' Child Maltreatmer	nt Victimization	
Variables		n(%)
Physical Abuse	None	108(58.4)
	At least one form	77(41.6)
Emotional Maltreatment	None	111(60.0)
	At least one form	74(40.0)
Sexual Abuse	None	132(71.4)
	At least one form	53(28.6)
Neglect	None	132(71.4)
	At least one form	52(28.1)
	Missing	1(.5)
Exposure to IPV	None	131(70.8)
-	At least one form	54(29.2)

 Table 2

 Mothers' Child Maltreatment Victimization

Note: IPV = Intimate partner violence.

Correlations and t-tests. Several t-tests were conducted in order to test the effect of relevant demographic variables (i.e., gender and ethnicity) on young adults' ratings of mothers' unsupportive contingencies and on young adults' ER difficulties. These variables were selected because previous studies have shown that the gender and ethnicity of young adults may influence their perceptions of, and reactions to, recollections of unsupportive contingencies (Guo et al., 2019; Leerkes et al., 2015; Lugo-Candelas et al., 2016). Both variables were dichotomized (i.e., Female vs. Other Gender¹; White vs. BIPOC²) prior to conducting *t*-tests. Young adults' ratings

¹ Other Gender includes all participants who identified as a man and two participants who identified as non-binary or gender-fluid. This accounted for 10.3% of the sample. Those who identified as female accounted for 89.7%.

² BIPOC refers to participants who identified as Black, Indigenous, or Persons of Colour (including participants who identified as Asian, Middle Eastern, Hispanic, or Mixed Race).

of mothers' unsupportive contingencies did not differ based on gender, t(182) = -1.56, p = .12,

or ethnicity, t(182) = -1.38, p = .17. Similarly, young adults' ER difficulties did not differ by

gender, t(183) = -1.18, p = .24, or ethnicity, t(183) = 1.12, p = .27. Correlations among all study

variables are displayed in Table 3.

Table 3	
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Me	ans, Standard Dev	viations, and Corr	elations for Cont	inuous Variable.	s(N = 184)			
	1) M Child	2) M DERS	3) M DERS	4) M DERS	5) M DERS	6) M DERS	7) YA Ratings	8) YA DERS
	Maltreatment	Total	Clarity	Goals	Impulse	Strategies	of M UC	Total
1	1.66(1.64)							
2	.42**	38.15(9.70)						
3	.31**	.75**	5.52(2.48)					
4	.33**	.79**	.48**	6.97(2.94)				
5	.33**	.77**	.46**	.50**	4.74(2.48)			
6	.38**	.89**	.59**	.66**	.67**	5.05(2.53)		
7	.18*	.27**	.19*	.11	.36**	.23**	2.49(1.23)	
8	.06	.22**	.14	.09	.21**	.21**	.42**	46.09(11.67)

Note: *Indicates significance at p < .05 level. ** Indicates significance at p < .01 level. Means and standard deviations are displayed on the diagonal. M = Mother. YA = Young Adult. DERS = Difficulties in Emotion Regulation. UC = Unsupportive Contingencies.

Moderated mediation analysis. A moderated mediation analysis was conducted using ordinary

least squares regression in the PROCESS macro Version 3.5.3, Model 7 (Hayes, 2018) on SPSS

Version 27 (see Figure 1 for the model). The statistical significance of the indirect effects was

evaluated using 95% bias-corrected bootstrap confidence intervals (CI; 10,000 iterations) with

heteroscedasticity consistent standard errors (Hayes, 2018). Results are reported using

unstandardized coefficients (Hayes, 2018; see Table 4).

Table 4Moderated Mediation Analysis

Coeff.	SE	t	р	LLCI	ULCI
397	.169	-2.345	.020	731	063
.002	.014	.173	.863	025	.029
.011	.004	2.689	.008	.003	.020
4.056	.700	5.806	.000	2.677	5.434
098	.488	201	.841	-1.060	.864
	397 .002 .011 4.056	397 .169 .002 .014 .011 .004 4.056 .700	397 .169 -2.345 .002 .014 .173 .011 .004 2.689 4.056 .700 5.806	397 .169 -2.345 .020 .002 .014 .173 .863 .011 .004 2.689 .008 4.056 .700 5.806 .000	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$

Note: Results are reported using unstandardized coefficients. CM = Child Maltreatment. UC = Unsupportive Contingencies. ER = Emotion Regulation. YA = Young Adult. LLCI = Lower Limit of Confidence Interval. ULCI = Upper Limit of Confidence Interval.



Figure 1. Moderated mediation model (Model 7 by Hayes, 2018) looking at the indirect effect of mothers' cumulative child maltreatment on young adults' ER difficulties through mothers' use of unsupportive contingencies in adolescence as reported by the young adult. Path α (the effect of maternal child maltreatment on unsupportive contingencies) is moderated by maternal ER difficulties. Notes: N = 184, *p < .05, **p < .01, *** p < .001. ER = Emotion Regulation. Int = Interaction effect. Presented effects are unstandardized.

The analysis revealed that mothers' cumulative child maltreatment was significantly associated with mothers' use of unsupportive contingencies (B = -.40, SE = .17, p = .02), which in turn, was positively associated with young adults' ER difficulties (B = 4.06, SE = .70, p < .001). Maternal ER difficulties significantly moderated the effect of child maltreatment on mothers' unsupportive contingencies (B = .01, SE = .00, p = .01) and this interaction explained 2.66% of the variance in unsupportive contingencies. At low and mean levels of maternal ER difficulties, the effect of cumulative child maltreatment on unsupportive contingencies was not significant (B = -.08, SE = .06, p = .24; B = .03, SE = .05, p = .47). However, at high levels of maternal ER difficulties, the number of maltreatment types endorsed was positively associated with unsupportive contingencies (B = .14, SE = .06, p = .02).

The overall moderated mediation model was supported (*index* = .05, SE = .02, CI = .01; .08), revealing that the indirect effect of mothers' child maltreatment on young adults' ER difficulties through unsupportive contingencies was moderated by maternal ER difficulties (see Figure 2). The conditional indirect effect was only significant for mothers who reported high ER difficulties (B = .58, SE = .27, CI = .08; 1.14).



Number of Child Maltreatment Types Endorsed by Mother

Figure 2. The relationship between mothers' cumulative child maltreatment and young adults' ratings of unsupportive contingencies at low, medium, and high levels of maternal ER difficulties.

Exploratory analyses. Inspired by Poole et al. (2017), exploratory analyses were conducted to determine whether the moderated mediation model would vary by the type of ER difficulty that was entered as the moderator. Bivariate correlations revealed that mothers' scores on Clarity, Impulse, and Strategies were all positively associated with unsupportive contingencies (see Table 3). Consequently, three additional moderated mediation analyses were

conducted. The moderated mediation models were significant for difficulties with emotional clarity (*index* = .17, *SE* = .08, CI = .02;.34) and impulse control (*index* = .19, *SE* = .08 CI = .03; .34), but not for strategies (*index* = .12, *SE* = .08, CI = -.04;.26). Similar to the original model, the conditional indirect effects were only significant for mothers who reported the highest difficulty with clarity (*B* = .71, *SE* = .30, *CI* = .16; 1.34) and impulse control (*B* = .62, *SE* = .28, CI = .05; 1.17).

Discussion

Evidence suggests that adults who have been maltreated as children may struggle to regulate their emotions and be more prone to problematic parenting behaviours that can have an adverse impact on their children's psychological and emotional functioning (Choi & Kangas, 2020; Plant et al., 2018). As such, the goal of the present study was to examine how a maternal history of child maltreatment would impact maternal ER and emotion socialization and to identify potential mechanisms involved in the intergenerational trans- mission of ER difficulties. Moreover, we hoped to identify specific dimensions of maternal ER that could serve as targets for prevention and intervention.

The results of the present study build upon previous work, which showed that increasing numbers of child maltreatment types in parents were associated with deficits in ER skills, which in turn, predicted higher levels of unsupportive contingencies towards their children (Cabecinha-Alati et al., 2020). In line with these results and in support of our first hypothesis, the present study found that mothers who endorsed more types of child maltreatment were described as more likely to use unsupportive contingencies, but only in the context of high levels of maternal ER difficulties. These findings coincide with McCullough et al. (2015), who demonstrated that mothers were at a greater risk of engaging in emotionally unsupportive parenting in the context

of high levels of childhood emotional maltreatment and high ER difficulties, but were not at such risk when maternal ER difficulties were low. ER has been identified as a protective factor associated with adaptive functioning and resilience after exposure to child maltreatment (Meng et al., 2018) and may also be implicated in the continuity (or discontinuity) of intergenerational cycles of abuse and maladaptive parenting, including parents' use of unsupportive contingencies (Siegel, 2013; Yan et al., 2016). Findings from the present study build on this literature, suggesting that mothers who have experienced child maltreatment can break the cycle of unsupportive parenting if they are able to mitigate any ER difficulties that may stem from these traumatic experiences.

Our second hypothesis was also supported in that recollections of mothers' unsupportive contingencies in adolescence were positively associated with young adults' current levels of ER difficulties. These findings are consistent with those produced in studies of teenage samples, wherein parents' use of unsupportive contingencies was associated with adolescents' emotional dysregulation and internalizing symptoms (Buckholdt et al., 2014; Jobe-Shields et al., 2014), as well as studies that have been conducted in young adults, which showed that recollections of unsupportive contingencies in childhood (Cao et al., 2018; Guo et al., 2019) and adolescence (Lugo- Candelas et al., 2016) were associated with emotional distress, anxiety, and depression. Furthermore, the indirect effect of mothers' child maltreatment history on young adults' ER difficulties was only significant when mothers had high levels of ER difficulties, once again underscoring the protective effects of adaptive ER.

Examination of Specific Emotion Regulation Difficulties

In addition to examining ER difficulties more broadly, the present study explored specific dimensions of ER that were associated with mothers' use of unsupportive contingencies and the

transmission of ER difficulties to the next generation. Cognitive and emotional control have already been identified as foundational skills that are needed to engage in sensitive parenting behaviours (Crandall et al., 2015). Accordingly, our preliminary analysis showed that maternal difficulty with impulse control was the dimension of ER that was most strongly correlated with young adults' recollections of unsupportive contingencies; even when compared to the total score assessing maternal ER difficulties (see Table 3). Furthermore, difficulties with impulse control and problems identifying, describing, and making sense of one's emotions (i.e., a lack of emotional clarity) both moderated the association between a maternal history of child maltreatment and young adults' recollections of their mothers' unsupportive contingencies.

Elevated levels of ER difficulties are pervasive among survivors of child maltreatment, and evidence suggests that difficulties with emotional clarity persist even after controlling for symptoms of post-traumatic stress disorder (Ehring & Quack, 2010). Additionally, difficulties with impulse control have been shown to mediate the relationship between child maltreatment and a variety of risk behaviours (Oshri et al., 2015). It is possible that maltreated mothers who have trouble understanding or making sense of their own emotions may be more prone to becoming upset or overwhelmed when confronted with their teenager's negative affect, which in turn, may increase the likelihood of responding impulsively as a way to mitigate their own discomfort (e.g., by minimizing or punishing their teen) rather than scaffolding more adaptive ER strategies (Barros et al., 2015; Fabes et al., 2002). In support of this notion, some evidence suggests that parents who score higher on emotional clarity may be less likely to match their child's distress reactions when negative emotions arise (Meyer et al., 2014). Nevertheless, more research is needed to understand how different dimensions of ER interact to influence parental emotion socialization.

Limitations and Strengths

Although the findings of the present study are a promising step towards understanding the mechanisms involved in the intergenerational transmission of ER difficulties and the lasting impacts of child maltreatment, the results should be interpreted in light of the following limitations. First, our reliance on a cross-sectional design with retrospective measures precludes us from making causal inferences or establishing the exact direction of these effects. We cannot rule out the possibility that current levels of ER difficulties, parent-child attachment quality, psychological distress, or depression influenced young adults' recollections of their mothers' parenting behaviours (Ehrlich et al., 2014; Garside & Klimes-Dougan, 2002). As such, retrospective reports should be interpreted as reflecting young adults' snapshot perceptions of their mothers' behaviours rather than a realistic and systematic account of the behaviours that took place. With respect to measurement issues, the relatively high prevalence of polyvictimization that was reported in the present sample may be a reflection of the dichotomous response format of the questions pertaining to child maltreatment. The rates of child maltreatment that were reported in the present study were generally much higher than those reported in a representative sample of women from the general population of Quebec (see Brassard et al., 2020), however this may be attributable to the fact that our recruitment ads described our program of research as "The Childhood Adversity Study", which may have attracted participants who have experienced more significant child maltreatment. Nonetheless, this method of assessing child maltreatment may be overly inclusive (Berthelot et al., 2014) and it also fails to account for more nuanced details of child maltreatment experiences that may affect ER and mental health outcomes such as chronicity, severity, age of onset, and the number of perpetrators (Jonson-Reid et al., 2012; Sundermann & DePrince, 2015). The present study

also did not account for mothers' experiences of revictimization in adulthood, which may have more proximal effects on maternal ER difficulties and emotion socialization (see Martin et al., 2018). Given that the interaction between cumulative child maltreatment and ER only accounted for a small percentage of the variance in mothers' unsupportive contingencies (less than 3%), more research is needed to identify other factors that may be involved. Lastly, findings from the present study may not be generalizable to the broader population of Canada. Despite making efforts to recruit participants from across the country, our sample included a disproportionate number of young adult females and was limited in terms of its cultural diversity, which may have made it challenging to detect gender and ethnic differences in reactions to parental emotion socialization that have emerged in previous studies (e.g., Perry et al., 2017). Future studies should strive to recruit more representative samples.

Notwithstanding these limitations, a notable strength of the present study was its use of a multi-informant approach wherein mothers' self-reported ER difficulties were associated with young adults' reports of their mother's parenting behaviours which in turn, were associated with young adults' reports of their own ER difficulties. Additionally, in contrast to the greater body of literature that tends to focus on the relationship between specific subtypes of child maltreatment and parenting (see Hughes & Cossar, 2016 and Lange et al., 2020 for reviews), our assessment method took into account five different types of child maltreatment and the tendency for different subtypes to co-occur, by using a measure of cumulative childhood victimization as the focal variable. The exploratory analyses conducted in the present study are also a considerable strength in that we were able to isolate specific ER difficulties that may contribute to mothers' use of unsupportive contingencies.

Implications

The results of the present study have several important implications. First, our findings highlight the ways in which child maltreatment and subsequent difficulties with ER may put mothers at risk for using unsupportive contingencies, which in turn, may contribute to ER difficulties in the next generation. Recollections of unsupportive contingencies also have the potential to contribute to negative mental health outcomes in young adults and less sensitive caregiving behaviours when these adults become parents themselves (Leerkes et al., 2015; Leerkes et al., 2020). In the present sample, 62% of young adults indicated that they had consulted with a mental health professional and just under one third of them reported having a diagnosed mental health condition. Since Cao et al. (2018) found that ER difficulties may be a key mechanism that explains the association between recollections of parents' unsupportive emotion socialization and young adults' poor mental health during the transition into parenthood, young adults in our sample may be at risk for continuing the cycle of maladaptive parenting if their difficulties with mental health and ER remain unaddressed. Interventions that target ER, such as emotion-focused cognitive-behavioural therapy, have proven to be effective for reducing emotional dysregulation and treating psychopathology in youth between the ages of 6 and 24 years old (Moltrecht et al., 2021). As such, interventions that provide ER skills training may be critical for youth and young adults who are affected by the ramifications of their parents' child maltreatment experiences. Similarly, adults who have experienced child maltreatment should have access to interventions that promote ER skills with the goal of mitigating the distress that stems from these experiences, thereby promoting their mental health and resilience (e.g., Cameron et al., 2018). Programs tailored to target parental ER and emotion socialization concurrently (e.g., The Tuning Into Teens Program, Havighurst et al., 2015; Tuning Relationships with Music, Colegrove et al., 2018), may also be of value to mothers with a history of child maltreatment as they have been shown to decrease maternal impulse control difficulties and emotion-dismissing behaviours (Havighurst et al., 2015), improve mothers' emotional responsiveness (Colegrove et al., 2019, 2018), and contribute to improvements in ER and parentadolescent conflict when mothers had histories of interpersonal trauma (Colegrove et al., 2018; 2019). Implementing these interventions within organizations that abide by the principles of trauma-informed care (see Menschner & Maul, 2016) is also of the utmost importance so that parents and their children can be empowered throughout the treatment process.

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Bridging Studies

The results from Study 1 highlight how ER difficulties can perpetuate emotionally unsupportive parenting behaviours amongst mothers who have experienced CM and in turn, contribute to emotional dysregulation in the next generation. Concomitant with previous research on CM and emotion socialization (Cabecinha-Alati et al., 2020; Milan et al., 2021), mothers who experienced multiple forms of CM were described as more likely to use unsupportive contingencies, but only when they experienced high levels of ER difficulties. Specifically, difficulties with emotional clarity and impulse control contributed to higher unsupportiveness. The finding that impulse control was the dimension of ER most strongly associated with unsupportive contingencies aligns with previous studies on the relationship between CM and impulsivity. Relative to those without histories of childhood victimization, individuals who have experienced CM display reductions in resting state heart rate variability (Sigrist et al., 2021), which is indicative of impulse control difficulties (Koenig et al., 2016; Williams et al., 2015). Consequently, Study 1 builds upon previous research that identified a link between CM, impulsivity, and maladaptive risk behaviours in adulthood (e.g., Oshri et al., 2015; 2018) by extending these findings to the realm of parenting behaviours. Study 1 also extends previous research on the relationship between parental ER difficulties and unsupportive contingencies (e.g., Buckholdt et al., 2014; Jones et al., 2014; Morelen et al., 2016) by identifying specific dimensions of ER that may compromise ERSBs among mothers CM histories. However, a major limitation of Study 1 is that the model only accounted for 2.66% of the variance in unsupportive contingencies, which suggests that factors beyond mothers' ER difficulties may be involved.

In support of this notion, CM has been associated with other stressors across multiple levels including interpersonal revictimization (Werner et al., 2016), trauma-related psychopathology (Haferkamp et al., 2015; Stovall-McClough & Cloitre, 2006), teenage motherhood (Kugler et al., 2019), and contextual stressors such as poverty and neighbourhood disadvantage (Fallon et al., 2011; Halonen et al., 2014). Taken together, these difficulties may interfere with emotion socialization, but the relative influence of these variables remains equivocal. Additionally, many individuals who were maltreated as children are resilient in that they do not necessarily go on to experience problems with mental health or parenting. Instead, these individuals may exhibit adaptive functioning because of supportive factors such as educational attainment or positive family relationships (see Meng et al., 2018 for review). The importance of considering multi-level stressors and supports is informed by Belsky's (1984) process model of the determinants of parenting, which has been used more recently to study parental emotion socialization (Bao & Kato, 2020). The foundational principle behind the model is that parenting behaviour is complex and multiply determined by a) individual characteristics of the parent, b) individual characteristics of the child, including the effect of the child on the caregiving microsystem, and c) the broader exosystem in which the parent-child relationship is embedded (Belsky, 1984; Belsky & Jaffee, 2015). The model also assumes that parents' characteristics may be traced back to their developmental histories. As such, Study 2 examined multi-level factors associated with the sequalae of CM with the goal of elucidating the relative influence of these factors on mothers' unsupportive contingencies. Identifying the stressors and supports that are the most strongly associated with unsupportive parenting behaviours has the potential to inform interventions with survivors of CM by enabling clinicians to tailor their approach toward the stressors that are most salient and the supports that are the most likely to disrupt cycles of maladaptive parenting, thereby benefiting survivors of CM as well as their future generations of children.
Chapter IV

Study 2

Multilevel factors associated with unsupportive emotion socialization: An examination of child

maltreatment and its sequelae

Sarah Cabecinha-Alati

Tina Montreuil

Rachel Langevin

McGill University

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Abstract

Purpose: Adults who have been maltreated as children are at risk for a variety of adverse sequalae that can have a negative impact on parents' emotion-related socialization behaviours (ERSBs) and contribute to the intergenerational transmission of emotion regulation difficulties. However, various supports may buffer against unsupportive parenting amongst survivors of child maltreatment. Informed by Belsky's (1984) determinants of parenting model, the goal of the present study was to examine multi-level stressors and supports that may contribute to, or discourage, parents' use of unsupportive ERSBs. Methods: Mothers and young adults (aged 18-25) from across Canada participated in an online study (N = 185 dyads). Mothers responded to questionnaires assessing multi-level stressors and supports, while young adults reported on their mothers' ERSBs during adolescence. Results: A hierarchical regression analysis revealed that mothers who reported more higher on impulse control difficulties, who experienced greater revictimization, and who had more severe dissociative symptoms were rated as higher in their use of unsupportive contingencies. However, when contextual supports were added into the model, only revictimization remained associated with unsupportive contingencies. Furthermore, mothers' positive perceptions of the parent-child attachment relationship were negatively associated with unsupportive contingencies. Conclusions: Preventing revictimization amongst survivors of child maltreatment may be an effective way to prevent the intergenerational continuity of unsupportive emotion socialization and emotion regulation difficulties. Interventions that improve parent-child attachment relationships may also be beneficial to survivors who want to break the cycle of maladaptive parenting.

Key words: Child Maltreatment; Revictimization; Parental Emotion Socialization.

Parents' emotion-related socialization behaviours (ERSBs) describe the ways in which parents discuss and react to their children's emotions (Eisenberg et al., 1998). Parents' reactions to children's emotions can be classified into supportive (e.g., problem-solving) or unsupportive (e.g., punitive) contingencies (Eisenberg et al., 2020), and there is evidence to suggest that unsupportive contingencies can contribute to the intergenerational transmission of emotion regulation difficulties (Buckholdt et al., 2014; Cabecinha-Alati et al., 2022). It is important to study determinants of ERSBs so that we can identify targets for prevention and intervention, particularly among survivors of child maltreatment (CM) who may be more likely to experience parenting problems (Plant et al., 2018). As such, the present study will examine CM and its sequelae as determinants of parents' unsupportive contingencies.

Determinants of Parenting and the Influence of Child Maltreatment

Over three decades ago, Belsky (1984) proposed a process model aimed at elucidating the determinants of parenting behaviours. The model posits that parental functioning is multiply determined and outlines three overarching factors that influence parenting including a) parents' individual characteristics and psychological resources, b) the individual characteristics of the child (including the effect of the child on the child-caregiver microsystem), and c) the broader exosystem in which the parent-child relationship is embedded including contextual sources of stress and support (Belsky, 1984; Belsky & Jaffee, 2015). The model also assumes that parents' psychological wellbeing and parental functioning may be traced back to parents' developmental histories (i.e., the experiences that parents had while growing up).

Individuals who have experienced CM are less likely to be exposed to parents who model supportive contingencies and more likely to be subjected to emotionally invalidating behaviours (Rea & Shaffer, 2016; Shipman et al., 2007). As such, adults who were maltreated as children

may repeat the behaviours they witnessed in their family of origin when they become parents themselves (Baker & Crnic, 2005). A recent study by Milan and colleagues (2021) demonstrated that mothers with a history of CM recalled being subjected to more unsupportive contingencies during their own childhoods, which predicted their own use of unsupportive contingencies when their children expressed negative emotions. However, CM was measured as a dichotomous variable (yes/no). Given that different forms of CM tend to co-occur (Burczycka & Conroy, 2017) and contribute to relational difficulties in a dose-dependent fashion (Steine et al., 2017) it is important to examine the influence of cumulative CM on unsupportive contingencies.

Insecure Attachment and Revictimization

Although there is some preliminary evidence to suggest that cumulative experiences of CM are positively associated with parents' use of unsupportive contingencies (Cabecinha-Alati et al., 2020), CM has also been associated with a host of other stressors that can negatively impact ERSBs. For instance, CM has been associated with the development of anxious and avoidant attachment styles that can persist into adulthood (Owen et al., 2012) and cumulative experiences of CM may contribute to higher levels of attachment insecurity (Godbout et al., 2017). Mothers who have insecure attachment styles may be more likely to use unsupportive contingencies (Abaied & Rudolph, 2010; Jones et al., 2014), however no studies to our knowledge have examined the relative influence of cumulative CM and adult attachment on mothers' ERSBs.

Another adverse effect of cumulative CM is a greater risk of experiencing multiple types of interpersonal victimization after childhood (e.g., physical, psychological, and sexual violence; Edalati et al., 2016; Hébert et al., 2017). Indeed, cumulative CM is associated with intimatepartner violence (IPV) victimization over and above the effects of any single type of CM (Brassard et al., 2020). IPV appears to have a negative impact on ERSBs as evidenced by an association between destructive interparental conflict and unsupportive contingencies (Lee & Brophy-Herb, 2018). However, relative to mothers who are victimized exclusively during childhood or adulthood, mothers who have been revictimized are at a greater risk for negative parenting behaviours (Stephenson & Renk, 2019) and this relationship appears to be exacerbated by maternal ER difficulties (Martin et al., 2018). Thus, revictimization and ER difficulties may represent more proximal stressors that contribute to unsupportive contingencies.

Emotion Regulation Difficulties – The Role of Impulse Control

Impulse control is a key aspect of ER that can be impaired after CM (Sigrist et al., 2021; Williams et al., 2015) and although poor impulse control can interfere with adaptive emotion socialization, this type of ER difficulty is responsive to intervention (Havighurst et al., 2015). Cabecinha-Alati and colleagues (2022) found that a maternal history of CM was positively associated with mothers' impulse control difficulties, which in turn, predicted young adults' recollections of unsupportive contingencies during adolescence. However, they did not assess revictimization. As such, more research is needed to determine whether revictimization and impulse control difficulties exert independent influences on unsupportive contingencies.

Trauma-Related Psychopathology

Concomitant with revictimization and ER difficulties in adulthood, mothers who have experienced CM are at an increased risk for post-traumatic stress (PTSS) and dissociative symptoms that can interfere with parenting (Samuelson et al., 2017; Williams et al., 2021). For instance, maternal anxiety (including PTSS) has been associated with the use of unsupportive contingencies (Breaux et al., 2016). Similarly, IPV-exposed mothers with high levels of PTSS were more likely to report using unsupportive contingencies, but only when they also displayed poor ER (Gurtovenko & Katz, 2020). With respect to dissociative symptoms, the tendency to dissociate may be conceptualized as a disengagement strategy that protects the individual from overwhelming hyperarousal (Lewis et al., 2020). While dissociation may protect victims of interpersonal trauma from chronic stress, dissociative symptoms can generalize to the parent-child relationship and impair maternal sensitivity (Moser et al., 2013). Individuals prone to dissociation also appear to have lower levels of cognitive empathy (Chiu et al., 2016) and this association was partially explained by deficits in emotional awareness, a pre-requisite for effective emotion socialization (Gottman et al., 1996). Taken together, parents who struggle with dissociation or PTSS may be more likely to use unsupportive contingencies, but the relative influence of psychopathology and ER difficulties remains unclear.

Age at Childbirth and Contextual Sources of Stress and Support

Building upon the research examining interpersonal stressors and parents' psychological wellbeing, it is also important to consider the role of parental age. Studies have identified a link between a history of CM and teenage motherhood (Madigan et al., 2014) and younger mothers who have experienced severe CM may be more likely to engage in emotionally unsupportive parenting behaviours (i.e., psychological control, unavailability, hostility) compared to older mothers with similar abuse histories (McCullough et al., 2015). Becoming a parent at a young age is also associated with poverty and job instability, which can exacerbate parenting stress (Steele et al., 2016). Fortunately, many individuals who are maltreated as children do not go on to experience these difficulties because of contextual sources of support such as education or living in a low-problem neighbourhood (Meng et al., 2018). Accordingly, parents with higher education and income may be less likely to use unsupportive contingencies (Lugo-Candelas et al., 2016). Thus, the parents' individual characteristics (i.e., age at childbirth) and contextual

sources of stress and support may contribute to, or detract from, parents' use of unsupportive contingencies.

Perceptions of the Child and Parent-Child Relationship

Finally, parents' perceptions of their children and the quality of the parent-child relationship itself may also influence parents' ERSBs. Compared to mothers without a history of CM, mothers who have experienced abuse or neglect in childhood may be more likely to perceive their infant's temperament as "difficult" (Casanueva et al., 2010) and may have unrealistic expectations that lead them to make negative attributions about their child's behaviour (Dixon et al., 2005; Malone et al., 2010). The parent-child relationship may become even more challenging during adolescence as teens strive for greater autonomy and individuation from their parents, resulting in elevated levels of conflict and negative emotionality (De Goede et al., 2009). More positive parent-child relationships characterized by perceptions of openness, warmth, and mutual responsiveness have been positively associated with emotional co-regulation in mother-adolescent dyads (Lougheed et al., 2016) and parents' use of supportive contingencies (Criss et al., 2016). Consequently, mothers who perceive the parent-child relationship more positively may be less likely to use unsupportive contingencies despite the presence of other stressors.

The Present Study

In recent years, several studies have identified determinants of parental ERSBs, however a major shortcoming is that ERSBs are often self-reported (Eisenberg, 2020). Additionally, many studies have focused on child or parent characteristics, while fewer have examined interpersonal and contextual factors (e.g., Godleski et al., 2020; Shaffer et al., 2012). Belsky's process of parenting model (1984) suggests that parental functioning is multiply determined by stressors and supports across different levels. He also argues that the characteristics of the parent, of the

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child, and of the social context are not equally influential in supporting or undermining parenting. Rather, Belsky (1984) proposes a hierarchy of importance wherein the parents' individual characteristics are the most influential determinants of parenting, followed by contextual sources of stress and support, which are themselves more influential than the characteristics of the child or their influence on the child-caregiver microsystem.

Another fundamental aspect of Belsky's model is the notion that parents' own developmental histories are viewed as a starting point, which in turn, shape the individual characteristics of the parent, their interpersonal relationships, and the broader context or exosystem in which the parent-child relationship is embedded (Belsky, 1984; Belsky & Jaffee, 2015). As such, the present dyadic study aimed to examine the relative influence of multilevel stressors and supports on parents' unsupportive contingencies with the goal of elucidating the relative impact of a parental history of CM and its sequalae. Given that the literature presented in this review focused predominantly on mothers, the present study focused on maternal ERSBs. Additionally, we used young adults' ratings of ERSBs during adolescence since unsupportive contingencies may be more prevalent during this period (Klimes-Dougan et al., 2007) and can have negative impacts that extend into emerging adulthood (Lugo-Candelas et al., 2016). In line with Belsky's model, it was hypothesized that parents' individual characteristics (i.e., maternal impulse control difficulties, PTSS, dissociation, age at childbirth) would be more strongly associated with unsupportive contingencies than stressors originating from the parents' developmental history (i.e., mothers' cumulative CM, interpersonal revictimization after childhood, insecure attachment in adulthood) and exosystem stressors (i.e., neighbourhood economic disadvantage). We also hypothesized that contextual sources of support (i.e., mothers' education, family economic wellbeing) and mothers' positive perceptions of their relationship

with their child would be negatively associated with unsupportive contingencies when controlling for multi-level stressors, but that these effects would be weaker than the effect of parents' individual characteristics.

Methods

Participants

Mothers and their young adult children (aged 18-25) were recruited from across Canada using social media (e.g., Facebook ads), online research platforms (e.g., Research Stream, Honeybee), and ads that were distributed through university departmental listservs. The initial sample included 1,218 participants (409 mothers and 809 young adults). Cases were excluded if participants: had duplicate responses (n = 68); did not provide a valid identification number or used the same email for both members of the dyad (n = 39); completed less than 75% of the survey (n = 36); or were outside the age range in our inclusion criteria (n = 69). To screen out careless responders, cases were excluded if the participant: answered "no" to a question that asked them to indicate whether they felt that their data was valid (n = 38); failed to follow the instructions to more than 3/5 directed questions (n = 121); or completed the survey in less than half of the modal completion time (n = 17). The final sample included 252 mothers, 578 young adults, and 185 complete dyads. Complete dyads were included in the present study. See Table 1 for demographic characteristics of the mothers (M = 51.19 years old, SD = 5.81) and young adults (89.7% female, M = 20.88 years old, SD = 2.18).

Measures

Demographic Information and Neighbourhood Disadvantage

All participants (i.e., mothers and young adults) were asked to provide demographic information including their gender, ethnicity, educational attainment, annual household income,

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age at first childbirth (if the participant was a parent), and the first three characters of their postal code. The first three characters of a postal code, referred to as forward sortation areas, represent a specific postal delivery area within a major geographical region (Statistics Canada, 2017). The first three digits of mothers' postal codes were entered into Postal Code OM Conversion File Plus (PCCF+) software, which was used to generate a neighbourhood income quintile variable (ranging from 1 to 5). A lower income quintile represents greater levels of neighbourhood disadvantage (Canadian Institute for Health Information, 2018).

Maternal History of Cumulative Child Maltreatment

Three subscales from the Early Trauma Inventory Self-Report – Short Form (ETISR-SF; Bremner et al., 2007) were used to assess mothers' experiences of physical abuse (five items), sexual abuse (six items), and emotional maltreatment (five items). The short form of the ETI has good psychometric properties and is able to distinguish between patients with known trauma histories and comparison subjects (Bemner et al., 2007). Additionally, five items from the IPSCAN Child Abuse Screening Tool – Retrospective Version (ICAST-R; Dunne et al., 2009) were used to assess mothers' experiences of childhood supervisory/physical neglect. The development of the ICAST-R was based on consensus from international experts in child protection and it has adequate measurement properties as a retrospective survey tool (Dunne et al., 2009). Lastly, three questions were adapted from the Revised Conflict Tactics Scale (CTS2; Straus et al., 1996) to assess whether mothers had witnessed IPV prior to the age of 18. The CTS2 is one of the most widely used instruments for assessing IPV and has good psychometric properties (Chapman & Gillespie, 2019). In the present study, mothers were asked to indicate whether they experienced or witnessed specific acts prior to the age of 18 using a dichotomous (Yes/No) response format, for example, "Were you ever slapped in the face with an open hand?"

(physical abuse). Questions were specific to perpetration by a parent or caregiver except for sexual abuse (intra and extrafamilial abuse was included). Internal consistencies for the five subscales ranged from $\alpha = .71$ to .87. Similar to previous studies (e.g., Brassard et al., 2020), the present study used a composite score to quantify mothers' cumulative CM. First, a dichotomous score (i.e., 0 or 1) was created for each type of CM that was endorsed. Participants who endorsed an item on any of the five subscales were classified as having experienced that type of CM. Second, a sum was computed to reflect the total number of maltreatment types that mothers reported ranging from 0 (no CM) to 5 (experienced all five types of CM).

Mothers' Experiences of Interpersonal Revictimization

Ten items from the Revised Conflict Tactics Scale – Short Form (CTS2-SF; Straus & Douglas, 2004) were used to assess mothers' experiences of IPV victimization. Mothers were presented with a series of statements (e.g., "My partner pushed, shoved, or slapped me") and were asked to indicate how often this particular event occurred within the last year (e.g., 1 = Once in the past year; 7 = Not in the past year, but it did happen before). The CTS2-SF is similar to the original, with internal consistencies ranging from .79 to .95 (Straus et al., 1996). The present study focused on subscales measuring the lifetime prevalence of Physical Assault IPV ($\alpha = .84$), Psychological Aggression ($\alpha = .55$) IPV, and Sexual Coercion IPV ($\alpha = .81$). Additionally, one item from the Life Events Checklist for the DSM-5 (LEC-5; Weathers, Blake, et al., 2013) was used to assess whether mothers experienced sexual assault (i.e., rape or attempted rape) after the age of 18. This item was included to account for sexual victimization that may have occurred outside the context of a couple relationship. A dichotomous score (i.e., 0 or 1) was computed for each type of interpersonal victimization after childhood (Physical Assault, Psychological Aggression, Sexual Violence). A revictimization score was computed

indicating whether or not mothers also reported a history of CM. Mothers who did not report a history of CM were assigned a score of 0. Mothers who endorsed CM were given a cumulative score (Edalati et al., 2016) from 0 (no revictimization) to 3 (three types of revictimization).

Mothers' Other Adverse Events in Adulthood

The LEC-5 (Weathers, Blake, et al., 2013) was also used to account for non-interpersonal adverse events in adulthood (e.g., transportation accident, life-threatening illness). Mothers were assigned a count score ranging from 0-9 representing the number of events they endorsed.

Maternal Emotion Regulation – Impulse Control Difficulties

The Difficulties in Emotion Regulation Scale – Brief Version (DERS-18; Victor & Klonsky, 2016) is an 18-item self-report measure of ER difficulties with good psychometric properties. The Impulse subscale (i.e., difficulties with controlling impulses in response to negative emotions) was used (e.g., "When I'm upset, I have difficulty controlling my behaviours"). Responses were recorded on a Likert-type scale ranging from 1 (almost never) to 5 (almost always). The Impulse subscale displayed good internal consistency ($\alpha = .93$).

Mothers' Trauma-Related Psychopathology

The PTSD Checklist for the DSM-5 (PCL-5; Weathers, Litz, et al., 2013). The PCL-5 is a psychometrically sound 20-item self-report measure that assessed mothers' PTSS (Blevins et al., 2015). After completing the LEC-5 and other measures related to interpersonal victimization, mothers were instructed to keep in mind the worst experience they ever had while responding to the questionnaire. For each item, mothers were asked to indicate how much they were bothered by their symptoms in the past month (e.g., "feeling jumpy or easily startled"). Responses were recorded on a Likert-type scale ranging from 0 (*Not at all*) to 4 (*Extremely*). A sum score was computed for mothers' PTSS severity ($\alpha = .96$). The Dissociative Experiences Scale Taxon (DES-T; Waller & Ross, 1997). The DES-T is an eight-item subscale of the DES that was used to assess mothers' dissociative symptoms (e.g., "Some people are told that they sometimes do not recognize friends or family members"). The original DES has good test-retest reliability (r = .93) and high internal consistency ($\alpha = .96$) (Dubester & Braun, 1995). The DES-T is used to detect more extreme, pathological forms of dissociation (Waller et al., 1996). Mothers were asked to indicate the percentage of the time that a particular dissociative symptom was experienced (0% to 100%). A mean score was used to assess the severity of mothers' dissociative symptoms ($\alpha = .95$).

Mothers' Insecure Attachment

The Experiences in Close Relationships Questionnaire – Short Form (ECR-12; Lafontaine et al., 2015) is a 12-item abbreviated self-report measure that was used to assess mothers' attachment avoidance (6 items; e.g., "I don't feel comfortable opening up to romantic partners) and anxiety (6 items; e.g., "I worry a fair amount about losing my partner"). Responses were recorded on a Likert-type scale ranging from 1 (*Disagree strongly*) to 7 (*Agree strongly*). Similar to the original ECR, the ECR-12 has good psychometric properties (Lafontaine et al., 2015). A mean score was used for attachment avoidance ($\alpha = .88$) and anxiety ($\alpha = .85$).

Mothers' Perceptions of the Parent-Child Relationship

The Revised Inventory of Parent Attachment (R-IPA; Johnson et al., 2003) is a 30-item self-report measure that was used to assess mothers' perceptions of the parent-child attachment relationship. The R-IPA includes two dimensions: Trust / Avoidance (23 items; e.g., "I trust my child", "I feel my child is good", "my child cares about my point of view") and Communication (7 items; e.g., "I like to get my child's point of view on things I am concerned about", "my child can tell when I'm upset about something") that can be combined to create a sum score.

Responses are recorded on a Likert-type scale ranging from 1 (*Almost never or never true*) to 5 (*Almost always or always true*). The measure had acceptable psychometric properties in the development sample (Johnson et al., 2003) and in the current study ($\alpha = .94$).

Mothers' Household Economic Well-Being

The Index of Material Deprivation (Azeredo & Payeur, 2015) is a 17-item self-report measure adapted from the Canadian Survey of Economic Wellbeing (Statistics Canada, 2013). Mothers were asked to respond to questions about their level of financial comfort. For example, "Can you afford to pay your bills on time?". Responses are recorded using a dichotomous (Yes/No) response format and a sum score (Yes = 1, No = 0) was computed for household economic well-being (α = .87), with higher scores representing greater financial comfort.

Young Adult Ratings of Mothers' Emotion-Related Socialization Behaviours

The Coping with Children's Negative Emotions Scale – Adolescents' Perceptions Version (CCNES-AP; Fabes & Eisenberg, 1998) was used to assess young adults' perceptions of their mother's responses to their negative affect during adolescence. Similar to Lugo-Candelas and colleagues (2016), we modified the existing scale by switching the nine vignettes into past tense and asking participants to recall their teenage years. For example, "When my mother saw me becoming anxious about something at school, she would usually...". Six possible reactions were presented for each scenario and three subscales that assessed unsupportive contingencies were used: Distress Reactions (e.g., become nervous and uneasy in dealing with my anxiety), Punitive Reactions (e.g., get angry at me for not dealing with things better), and Minimizing Reactions (e.g., tell me that I was making too big a deal out of it). Responses were recorded on a Likert-type scale ranging from 1 (*Very Unlikely*) to 7 (*Very Likely*). Internal consistencies for these subscales were α = .91, .92, and .91, respectively, and a mean score was computed for mothers' unsupportive contingencies (e.g., Mezulis et al., 2015; Nelson et al., 2009). **Procedure**

Once the study received ethical approval from the primary researcher's institution, measures were administered via an online Qualtrics survey (Qualtrics, Provo, UT). Prior to completing questionnaires, participants selected a language (English or French) and provided their informed consent. The first participant filled out contact information for themselves as well as for the second member of their dyad. Each participant who completed the survey in motheryoung adult pairs was compensated with a \$5 e-gift card. Every participant was entered into a draw to win an iPad, regardless of whether their other family member completed the survey.

Results

Descriptive Analysis – Mother's Victimization Characteristics

Our results showed that 64.3% of mothers in the present study reported experiencing at least one type of CM. For those with cumulative CM experiences, 16.2% reported experiencing two types of CM, 11.4% reported three types, 13.5% reported four types, and 5.9% of mothers reported experiencing all five types of CM. Additionally, 47% of mothers who endorsed a history of CM reported that they also experienced interpersonal revictimization after childhood. For those who were revictimized, 27.0% reported one type of interpersonal victimization, 12.4% reported two types, and 7.6% reported experiencing all three types. Rates for each type of CM and revictimization are displayed in Table 1.

Table 1

Demographic rariables	and mothers rectimization characteristics		
Variables		Mother n(%)	Young adult n(%)
Gender	Female	185(100)	166(89.7)
	Male	0(0)	16(8.6)
	Non-binary or genderfluid	0(0)	2(1)

Demographic Variables and Mothers' Victimization Characteristics

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	Transgender	0(0)	1(.5)
Ethnicity $(n = 365)$	White	130(70.3)	127(68.6)
	Asian	35(18.9)	35(18.9)
	Black	4(2.2)	4(2.2)
	Arab / Middle Eastern	4(2.2)	4(2.2)
	Hispanic	3(1.6)	3(1.6)
	Indigenous / Native American	3(1.6)	2(1.1)
	Mixed race	1(.5)	10(5.4)
Educational attainment ($n = 368$)	Elementary school or less	3(1.6)	0(0)
	High school	31(16.8)	63(34.1)
	CEGEP or professional school	42(22.7)	25(13.5)
	Undergraduate degree or certificate	74(40)	83(44.9)
	Graduate degree	33(17.8)	14(7.6)
Household income $(n = 314)$	Less than \$20, 000/yr	4(2.2)	37(20)
	\$20, 000 - \$59, 999/yr	35(18.9)	43(23.3)
	\$60, 000 - \$99, 999/yr	48 (26.0)	25 (13.5)
	\$100, 000 or more/yr	76(41.0)	46(24.8)
Physical Abuse ($n = 185$)	None	108(58.4)	
	At least one form	77(41.6)	
Emotional Maltreatment ($n = 185$)	None	111(60.0)	
	At least one form	74(40.0)	
Sexual Abuse ($n = 185$)	None	132(71.4)	
	At least one form	53(28.6)	
Neglect ($n = 184$)	None	132(71.4)	
	At least one form	52(28.1)	
Witness to IPV ($n = 185$)	None	131(70.8)	
	At least one form	54(29.2)	
Revictimization ($n = 182$)	None	95(51.4)	
	At least one form	87(47.0)	
Physical Assault IPV ($n = 86$)	None	58(31.4)	

	At least one form	28(15.1)	
Psych. Aggression IPV $(n = 86)$	None At least one form	4(2.2) 82(44.3)	
Sexual Violence ($n = 87$)	None At least one form	59(31.9) 28(15.1)	

Note: CEGEP = Collège d'enseignement general et professionnel is a precollege university program unique to Quebec. Psych. = Psychological. IPV = Intimate partner violence. Sexual Violence refers to sexual assault experiences in adulthood that occurred inside or outside the context of a couple relationship.

Preliminary Analyses

Magna Standard Deviations and Correlations (N - 154)

Missing data on the variables of interest was minimal (less than 5%), with the exception of neighbourhood disadvantage (8.1% missing). Little's MCAR test, $\chi 2(92) = 91.92$, p = .48, revealed that data was likely missing completely at random. As such, listwise deletion was used (Tabachnik & Fidell, 2007). Four variables, including mothers' attachment avoidance, other adverse life events in adulthood, educational attainment, and neighbourhood disadvantage, were excluded from analyses since they were not correlated with unsupportive contingencies (see Table 2). Two outliers with large standardized residuals (>3SD) were also removed.

Table 2

M	eans, Star	idara Deviatio	ons, and Corre	elations ($N =$	154)									
1)	UC	2) ND	3) CCM	4) RV	5) OAE	6) A-AV	7) A-AN	8) ICD	9) PTSS	10) DS	11) ACB	12) EDU	13) HEW	14) M-C A
1 2.	47(1.24)	07	.18*	.24**	.06	.08	.26**	.35**	.20**	.30**	17*	11	25**	51**
2	-	3.23(1.41)	00	09	04	11	10	14	09	20*	.08	.10	.15	.12
3	-	-	1.58(1.60)	.69**	.17**	.20*	.34**	.37**	.49**	.33**	10	03	38**	32**
4	-	-	-	.71 <i>(.94)</i>	.33**	.22**	.34**	.40**	.62**	.40**	16	08	45**	31**
5	-	-	-	-	1.20(1.29)	.07	.12	.12	.22**	.11	.03	.04	25**	14
6	-	-	-	-	-	2.52(1.27)	.23**	.30**	.44**	.30**	11	02	28**	32**
7	-	-	-	-	-	-	3.11 <i>(1.51)</i>	.37**	.45**	.32**	06	10	35**	44**
8	-	-	-	-	-	-	-	4.69 <i>(2.43)</i>	.49**	.50**	08	06	30**	46**
9	-	-	-	-	-	-	-	-	14.29(15.87)	.53**	20*	11	50**	39**
10	-	-	-	-	-	-	-	-	-	6.81(14.76)	23**	13	54**	43**
11	-	-	-	-	-	-	-	-	-	-	27.75(5.09)	.24**	.24**	.09
12	-	-	-	-	-	-	-	-	-	-	-	3.48(1.01)	.24**	.07
13	-	-	-	-	-	-	-	-	-	-	-	-	16.03(2.22)	.40**
14	-	-	-	-	-	-	-	-	-	-	-	-	-	119.68(17.18

Note: *Significant at p < .05 level. ** Significant at p < .01 level. The means and standard deviations are displayed on the diagonal. UC = Unsupportive Contingencies. ND = Neighbourhood Disadvantage. CCM = Cumulative Child Maltreatment. RV = Revictimization. OAE = Other Adverse Events. A-AV = Attachment Avoidance. A-AN = Attachment Anxiety. ICD = Impulse Control Difficulties. PTSS = Post-Traumatic Stress Symptoms. DS = Dissociative Symptoms. ACB = Age at Childbirth. EDU = Education. HEW = Household Economic Wellbeing. M-C A = Mother-Child Attachment.

Hierarchical Regression Analysis

A three-step hierarchical regression analysis was conducted to predict young adults' ratings of mothers' unsupportive contingencies. In line with Belsky's (1984) theory, mothers' histories of cumulative CM and associated developmental stressors (i.e., revictimization after childhood and insecure attachment in adulthood) were entered into the first block of the model. Parents' individual characteristics (i.e., maternal impulse control difficulties, PTSS, dissociative symptoms, and age at first childbirth) were entered into the second block. Finally, contextual sources of support (i.e., economic wellbeing) and mothers' perceptions of the parent-child relationship were entered into the third block. Regression coefficients and effect sizes for each predictor are displayed in Table 3. Effect sizes are measured using Cohen's f^2 (.02 = small, .15 = medium .35 = large; $f^2 = R^2_{inc}/1-R^2_{inc}$) (Geert van den Berg, 2020).

Developmental stressors were significantly associated with unsupportive contingencies, F(3, 169) = 8.25, p < .001, accounting for 12.8% of the variance. Revictimization and attachment anxiety were both positively associated with unsupportive contingencies, but cumulative CM was not. When individual level characteristics were added in the second block, the overall model was significant, F(7, 165) = 7.18, p < .001, and increased in its predictive power ($\Delta F(4, 165) =$ 5.70, p < .001), accounting for an additional 10.6% of the variance in unsupportive contingencies. Revictimization remained associated with unsupportive contingencies, but not attachment anxiety. Maternal impulse control difficulties and dissociative symptoms were also positively associated with unsupportive contingencies; however, mothers' PTSS and age at first childbirth were not. The strongest predictor was maternal impulse control difficulties followed by revictimization, and dissociative symptoms, which all had a small effect on unsupportive contingencies. Finally, entering contextual supports and mothers' perceptions of the parent-child relationship into the model explained an additional 11.6% of the variance in unsupportive contingencies, and this change in \mathbb{R}^2 was also significant, $\Delta F(2, 163) = 14.41$, p < .001. Revictimization remained associated with unsupportive contingencies while mothers' positive perceptions of mother-child relationship were negatively associated with unsupportive contingencies. Economic wellbeing was not associated with unsupportive contingencies and maternal dissociative symptoms as well as impulse control difficulties were no longer significant. The overall model was significant, F(9, 163) = 9.72, p < .001, and together, the stressors and supports accounted for 34.9% of the variance in unsupportive contingencies. The strongest predictor in the last step was mother-child attachment quality, which had a small-medium effect on unsupportive contingencies.

Table 3 Regression Coefficients (N = 173)

				Model 1			Model 2				Model 3			
	В	SE	r _{part}	f^2	В	SE	r _{part}	f^2	В	SE	r _{part}	f^2		
Step 1	Cumulative CM	08	.07	08	.01	09	.07	09	.01	11	.07	11	.01	
	Revictimization	.42***	.12	.25	.06	.31*	.13	.16	.03	.32**	.12	.17	.03	
	Attachment Anxiety	.14*	.06	.16	.03	.09	.06	.10	.01	.00	.06	.00	.00	
Step 2	IC Difficulties	_	_	_	-	.12**	.04	.20	.04	.07	.04	.11	.01	
1	PTSS	-	-	-	-	01	.01	01	.01	01	.01	12	.01	
	Dissociative Symptoms	-	-	-	-	.02*	.01	.15	.02	.01	.01	.08	.01	
	Age at childbirth	-	-	-	-	02	.02	09	.01	02	.02	09	.01	
Step 3	Economic Wellbeing	_								01	.04	02	.00	
Step 5	M-C Attachment	-	-	-	-	-	-	-	-	01	.04	02	.13	

Note: Regression coefficients are presented in unstandardized form. CM = Child Maltreatment. IC = Impulse Control. PTSS = Post-traumatic stress symptoms. M-C = Mother-Child. * Significant at p < .05 level. ** Significant at p < .01 level. *** Significant at p < .01 level.

Discussion

A history of CM has been associated with parenting problems (Hughes & Cossar, 2016), however only a handful of studies have examined how CM and its sequalae may influence parental ERSBs (Cabecinha-Alati et al., 2020, 2022; Martin et al., 2018; Milan et al., 2021). To expand on previous research on ERSBs that has predominantly focused on parents' individual characteristics (Eisenberg et al., 2020), the present study used Belsky's determinants of parenting model to examine stressors and supports occurring across multiple levels.

Stressors

The hypothesis that individual characteristics would be more strongly associated with unsupportive contingencies than stressors at other levels was supported, since maternal impulse control difficulties had the strongest effect on unsupportive contingencies when controlling for developmental stressors (i.e., cumulative CM, revictimization, and anxious attachment). With all other stressors statistically controlled for, mothers who reported more impulse control difficulties, who experienced greater revictimization, and who had more severe dissociative symptoms were rated as higher in their use of unsupportive contingencies. These findings are consistent with previous research, which showed that revictimization (rather than CM alone) contributed to mothers' negative emotional responsivity when adolescents expressed negative emotions (Martin et al., 2018) as well as research that suggests that parental difficulties with impulse control may contribute to unsupportive contingencies (Cabecinha-Alati et al., 2022). The finding that anxious attachment was no longer significant when impulse control difficulties were entered into the model aligns with a previous study (Jones et al., 2014), which demonstrated that the influence of maternal attachment anxiety on unsupportive contingencies occurred through maternal ER difficulties. Similarly, although maternal age at childbirth and PTSS were associated with unsupportive contingencies in bivariate correlations, these associations did not persist in the regression model. Previous literature suggests that these variables may interact with ER to influence parenting behaviours (e.g., Gurtovenko & Katz, 2020; McCullough et al., 2015) and as such, future studies should examine whether this is also the case for parental ERSBs. Lastly, although this is the first study (to our knowledge) that has examined the relationship

between dissociation and parental ERSBs, our findings coincide with studies that have linked dissociation with punitive parenting behaviours (Collin-Vézina et al., 2005) and parenting stress (Williams et al., 2021), which can negatively impact supportive ERSBs (Wu et al., 2019). Thus, dissociation may represent a maladaptive strategy that traumatized parents use to disengage from the stress elicited by their child's negative affect.

Supports: The Influence of Parent-Child Relationship Quality

In addition to examining the relative influence of different stressors, the present study aimed to identify factors that might discourage parents from using unsupportive contingencies. When contextual supports (i.e., household economic wellbeing) and mothers' perceptions of the parent-child relationship were entered into the last step of the model, the associations between parents' individual characteristics (i.e., impulse control and dissociation) and unsupportive contingencies were no longer significant. Mother-child relationship quality was the only factor that was negatively associated with unsupportive contingencies and contrary to our second hypothesis, this was the strongest predictor in the final step. It is possible that mothers who can cultivate secure parent-child relationships despite their histories of victimization are more resilient in that they have developed strategies (e.g., cognitive reappraisal; Bao & Kato, 2020) or skills (e.g., mentalizing; Milan et al., 2021) that have enabled them to manage their emotional and psychological difficulties so that these problems do not spill over into the parental role and negatively impact ERSBs. In contrast, mothers who have been unable to resolve their abuse experiences may be more likely to engage in unsupportive contingencies that contribute to the transmission of disorganized attachment (DeOliveira et al., 2004). Our finding that mothers' positive perceptions of the mother-child relationship were related to lower ratings of unsupportive contingencies align with a recent longitudinal study (Wang et al., 2021). However,

given our cross-sectional design we cannot rule out the possibility that lower unsupportive contingencies during adolescence may be contributing to more positive parent-child relationships at present.

The Influence of Revictimization

After contextual supports and the parent-child relationship were entered into the model, the only stressor that remained associated with unsupportive contingencies was revictimization. According to Banyard and colleagues (2003), a history of CM may put mothers at risk for more proximal stressors, such as IPV, that can negatively affect parenting. IPV has been associated with increased parenting stress (Pinto et al., 2019), which in turn, can contribute to emotionally unsupportive parenting behaviours (Loucks & Shaffer, 2014). Previous studies have also identified a link between destructive partner conflict and parents' use of unsupportive contingencies (e.g., Lee & Brophy-Herb, 2018), and these effects may be specific to mothers who have been victimized in both childhood and adulthood (Martin et al., 2018). Unlike previous research, which found that the association between revictimization and mothers' negative emotional responsivity towards adolescents was non-significant after maternal ER difficulties were included in the model (Martin et al., 2018), the present study found that revictimization and difficulties with impulse control exerted independent influences on mothers' unsupportiveness contingencies (see Molina et al., 2020 for similar findings). Consequently, it may be important to provide interventions for all IPV-exposed mothers, rather than targeting mothers with ER difficulties more specifically (Molina et al., 2020). Interventions that combine ER skills training with training in emotion-coaching appear promising in that they have been shown to increase supportive contingencies (e.g., validation) and reduce unsupportive contingencies (e.g., scolding) among IPV-exposed mothers (Katz et al., 2020). Our results suggest that these interventions may

be particularly important for mothers who have experienced multiple forms of revictimization after childhood.

Limitations, Strengths, and Implications

Although the present study helps shed light on determinants of maternal ERSBs, our findings are not without limitations. First, our reliance on a retrospective self-report measure of CM is also a limitation given that using a single method to identify CM may overlook certain cases (Shaffer et al., 2008). Although prospective and retrospective reports of CM produce similar rates of maltreatment (Newbury et al., 2018), agreement on these measures is typically poor as they tend to capture distinct groups of individuals (Baldwin et al., 2019). As such, future studies would benefit from combining multiple sources of information (Newbury et al., 2018) to assess for CM. Secondly, most mothers in our sample were university educated, endorsed high economic wellbeing, and did not reside in disadvantaged neighbourhoods, which may have prevented us from detecting relationships between these factors and maternal ERSBs. Additionally, our definition of trauma-related psychopathology was limited to dissociation and PTSS rather than including more general psychological difficulties (e.g., depressive symptoms) that have been associated with a history of CM and ERSBs (Choi & Kang, 2021). We also did not include other child-related variables (e.g., problem behaviours during adolescence) that may have influenced bi-directional parent-child interactions and mothers' ERSBs (Wang et al., 2021). Lastly, our cross-sectional design and a retrospective measure of ERSBs preclude us from establishing directionality. The transition from adolescence to young adulthood is characterized by realignment (i.e., warmth and closeness) in parent-child relationships (Lanz, 2017) and recollections of parental ERSBs may have been influenced by the current quality of the parentchild attachment relationship (e.g., Ehrlich et al., 2013). However, given the mean age of the

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young adult sample (20.88 years old) and the fact that 52% still lived at home, adolescence is relatively recent for most participants and may even be considered a protracted developmental stage due to delays in the assumption of adult roles in Western society (Riediger & Klipker, 2014). Consequently, retrospective ratings of ERSBs may still be useful, especially since the parent-child attachment relationship appears to be a more stable predictor of ERSBs than vice versa (Wang et al., 2021).

Notwithstanding these limitations, a notable strength of the present study is its use of data from both members of the parent-child dyad. Previous studies examining predictors of maternal ERSBs have used self-report data from the same informant (typically the mother), which inflate the associations between the predictors and the outcome variable. Additionally, by assessing different types of interpersonal victimization both during – and after – childhood, the present study was able to tease apart the impacts of cumulative CM and revictimization, which builds off extant literature on cumulative risk (Cohen et al., 2008) as well as research that has attempted to ascertain the relative influence of CM and adult victimization on parental ERSBs (e.g., Martin et al., 2018). Taken together, findings from the present study support the notion that a history of CM is not necessarily deterministic of poor parenting. Rather, there are several pathways through which CM may heighten one's vulnerability for parenting difficulties and conversely, many pathways through which the intergenerational transmission of risk may be disrupted (Morelen et al., 2018). Specifically, our results suggest that preventing revictimization amongst survivors of CM may be an effective way to prevent the continuity of unsupportive ERSBs (Leerkes et al., 2020) and ER difficulties (Cabecinha-Alati et al., 2022). Interventions that improve parent-child attachment relationships (e.g., Mom Power; Rosenblum et al., 2017), particularly amongst parents and their adolescent children (e.g., Tuning Relationships with Music; Colegrove et al.,

2019), may help to decrease unsupportive contingencies amongst survivors, and in turn, improve adolescents' capacity for ER (Herd et al., 2021) so that these difficulties do not persist in future generations.

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Chapter V

General Discussion

Integrated Summary of Findings and Original Contributions

Since Belsky's seminal article in 1984, researchers have spent almost four decades trying to identify and understand the determinants of parenting behaviours. In recent years, there has been increased interest in parents' emotion-related socialization behaviours (ERSBs; Eisenberg et al., 2020) and more specifically, the ways in which parents' contingent responses to their children's emotions may contribute to the intergenerational transmission of ER difficulties (Buckholdt et al., 2014; Li et al., 2019). This line of research is especially applicable to survivors of CM and their children, who are more susceptible to developing behavioural and emotional problems (Plant et al., 2018). Several mechanisms have been proposed to explain how adverse outcomes are transmitted to survivors' children. Post-partum depression (Madigan et al., 2015), poor maternal mental health (Roberts et al., 2015), negative parental attitudes toward communication (Babcock Fenerci et al., 2016), and negative parenting behaviours (e.g., punitiveness and hostility; Plant et al., 2018) have all been identified as potential mediators through which a maternal history of CM might contribute to internalizing and externalizing problems in offspring. However, the role of ER difficulties and their transmission has only been examined more recently (e.g., Osborne et al., 2021; Wang, 2021). This is surprising, since ER difficulties are a transdiagnostic risk factor for psychopathology (Weissman et al., 2019) and parenting problems (Rutherford et al., 2015).

Emotions and their regulation have a profound impact on the way that individuals behave, particularly in the context of parenting (Barros et al., 2015; Rutherford et al., 2015). There is ample evidence of the relationships between a history of CM and parental ER difficulties (McCullough et al., 2014, 2015; Osborne et al., 2021) and parental ER difficulties and unsupportive contingencies (Buckholdt et al., 2014; Han et al., 2015; Jones et al., 2014; Morelen et al., 2016). However, only two previous studies have examined all three of these variables together (Cabecinha-Alati et al., 2021; Martin et al., 2018) and only one of them examined the emotional functioning of offspring in the next generation (Cabecinha-Alati et al., 2021). Moreover, only one previous study has explored how specific dimensions of parental ER influence the intergenerational transmission of ER difficulties to survivors' children (Osborne et al., 2021). Although Osborne and colleagues discussed the potential role of parents' ERSBs, they were not directly measured. Consequently, Study 1 fills these gaps in the literature by examining whether a maternal history of CM and ER difficulties are associated with unsupportive contingencies and the intergenerational transmission of ER difficulties to young adults in the next generation. Study 1 also identifies specific ER difficulties that may contribute to unsupportive contingencies.

Understanding the influence of specific ER difficulties on parental ERSBs and the transmission of ER difficulties to offspring is an important step towards developing more targeted intervention programs that can meet the needs of survivors of CM. As such, Study 1 made important contributions to the literature by identifying how difficulties with emotional clarity and impulse control that stem from a cumulative history of CM may contribute to mothers' unsupportive contingencies. Study 1 also provided further support for previous studies on the associations between recollections of unsupportive contingencies and poor mental health in young adults (e.g., Guo et al., 2019; Lugo-Candelas et al., 2016; Ramakrishnan et al., 2019) and extended these findings by looking at ER difficulties as an outcome, underscoring the relevance of ER as a transdiagnostic target for treatment (Sloan et al., 2017). Overall, Study 1

demonstrated that recollections of unsupportive contingencies, particularly during adolescence, can have long-term impacts on ER that extend into adulthood and identified specific dimensions of parental ER (i.e., difficulties with impulse control and emotional clarity) that may put survivors of CM at risk for these unsupportive behaviours, thereby perpetuating the intergenerational transmission of ER difficulties. A major shortcoming of Study 1 however, was that the moderated mediation models accounted for less than 3% of the variance in unsupportive contingencies. This suggests that other influences are undoubtedly at play. Consequently, the goal of Study 2 was to examine multilevel stressors and supports factors, in addition to CM and ER, that were associated with mothers' unsupportive contingencies.

In addition to parental ER difficulties, CM has been linked to other stressors such as interpersonal revictimization (Brassard et al., 2020), insecure attachment (Owen et al., 2012), teenage motherhood (Garwood et al., 2015), psychopathology (Goldsmith et al., 2012), and economic disadvantage (Steele et al., 2016), and all of which can have negative impacts on parents' ERSBs (Breaux et al., 2016; Jones et al., 2014; Martin et al., 2018; McCullough et al., 2015; Shaffer et al., 2012). Despite a plethora of stressors, a history of CM is not necessarily deterministic of reduced parental capacity or poor parenting (Morelen et al., 2018). Thus, identifying supportive factors that can reduce parents' reliance on unsupportive contingencies is also an important endeavour. The results of Study 2 suggest that the quality of the parent-child attachment relationship may be one such factor, since mothers' positive perceptions of the parent-child relationship were negatively associated with young adults' reports of their mothers' unsupportive contingencies during adolescence. This finding coincides with research that has linked positive mother-child relationships to the successful interpersonal regulation of emotional arousal (Lougheed et al., 2016) and more supportive ERSBs (Criss et al., 2016). However, given

the retrospective nature of the emotion socialization measure and the cross-sectional method of assessment, this result should be interpreted with caution because the inverse may also be true (i.e., lower levels of unsupportive contingencies during adolescence may have contributed to better attachment quality between young adults and their mothers).

With respect to the stressors identified in Study 2, the results showed that mothers who reported more impulse control difficulties, who experienced greater revictimization, and who had more severe dissociative symptoms were described by their young adults as more likely to use unsupportive contingencies during adolescence. Previous studies on psychopathology and emotion socialization have found that anxiety, depression, substance use, personality disorder symptoms, and PTSD may put parents at risk for unsupportive contingencies (Breaux et al., 2016; Faro et al., 2019; Gurtovenko & Katz, 2020). However, this was the first study to my knowledge to examine the specific influence of trauma-related psychopathology (i.e., PTSD and dissociative symptoms) simultaneously with ER difficulties (i.e., impulsivity), representing a unique contribution to the literature. Although PTSD was not associated with unsupportive contingencies in the present study, difficulties with impulse control are persistent in survivors of interpersonal trauma even after controlling for the severity of PTSD symptoms (Ehring & Quack, 2010). Thus, findings from Study 2 support the notion that emotional dysregulation (and impulse control difficulties in particular), may represent a "coalescent factor" in the relationship between CM and PTSD (Messman-Moore & Bhuptani, 2017).

In a similar vein, a recent meta-analysis demonstrated that dissociation and ER are also interrelated constructs (Cavicchioli et al., 2021) in that dissociative symptomology has shown moderate to large associations with maladaptive aspects of ER such as emotional disengagement (e.g., through avoidance and suppression) and cognitive perseveration (e.g., rumination and emotional non-acceptance). The authors of the meta-analysis concluded that dissociation might be conceptualized as a non-voluntary, automatic self-regulatory mechanism that contributes to the over-modulation of emotional states through the cognitive, emotional, and experiential avoidance of distressing stimuli, but that it is not synonymous with ER. Accordingly, Study 2 found that maternal dissociative symptoms and ER (i.e., impulse control difficulties) exerted independent effects on unsupportive contingencies. Given that emotional dysregulation has been associated with the severity of dissociative symptoms in survivors of CM (Henschel et al., 2018) and that dissociation may occur at the expense of more adaptive ER strategies (Cavicchioli et al., 2021), strengthening ER is essential to the treatment of dissociation (Ford, 2013). Consequently, interventions that target parental ER skills may help to reduce dissociative symptoms and survivors' reliance on unsupportive contingencies by helping them learn to tolerate and manage negative affect that arises in the context of parenting.

Concomitant with its identification of stressors and supports including mother-child attachment quality, maternal impulse control difficulties, and dissociative symptoms, another important contribution of Study 2 was its focus on the impact of interpersonal revictimization. Unlike Martin and colleagues (2018) who found that the influence of revictimization on maternal emotion socialization occurred through maternal ER difficulties, the findings of Study 2 suggest that revictimization may exert an independent influence on mothers' unsupportive contingencies, particularly when multiple types of revictimization are considered. Interestingly, revictimization was the only stressor that remained significantly associated with unsupportive contingencies when the supportive influence of parent-child attachment was added into the model. Thus, interventions that prevent the occurrence of revictimization may be an effective way of preventing unsupportive ERSBs among survivors of CM.

Implications for Clinical Practice

Taken together, the results presented in this program of research suggest that interventions aimed at improving parental ER and dissociative symptoms, bolstering parentadolescent attachment, and preventing the occurrence of revictimization may be effective ways of interrupting cycles of unsupportive emotion socialization that have been observed in survivors of CM (e.g., Leerkes et al., 2020; Milan et al., 2021). Given that CM is a distal factor that cannot be changed in adulthood, identifying modifiable treatment targets is a crucial step in mitigating the deleterious effects of CM on parents and their children in the next generation (Hays Grudo et al., 2021; Poole et al., 2017).

Interventions preventing revictimization. DePrince and colleagues (2015) evaluated two interventions aimed at preventing revictimization in a sample of maltreated adolescent girls: one based on the Youth Relationships Manual that was informed by social learning and feminist theories (see Wolfe et al., 1996) and another that was aimed at strengthening executive functioning and risk detection skills (see Marx et al., 2001). In the first intervention, youth were taught to understand power dynamics in the context of relational violence and developed skills aimed at building healthy relationships. They were also coached on how to recognize and respond to abusive behaviour and encouraged to practice techniques aimed at mitigating social pressures that might contribute to violence. In the second intervention, youth were taught strategies aimed at recognizing risky situations, problem-solving skills aimed at navigating these situations, and interoceptive awareness skills which helped them become more attentive to internal cues that might alert them to potential danger. Both interventions were effective for reducing the risk of physical and sexual revictimization and were administered in only 12 sessions (DePrince et al., 2015). However, a criticism of these types of interventions is that they

focus solely on the victims of violence (Langer & Neuner, 2021). As such, interventions aimed at preventing revictimization should also focus on reducing intimate partner violence perpetration (see Lundgren & Amin, 2015 and Idriss-Wheeler et al., 2021).

In addition to preventing revictimization directly, it is important to consider how revictimization may be connected to the other stressors. For instance, higher levels of posttraumatic stress symptoms (Auslander et al., 2016; Jaffe et al., 2019), emotional dysregulation (Messman-Moore et al., 2010), and dissociative symptoms (Zamir et al., 2018) have all been associated with an increased risk for revictimization. In contrast, higher levels of emotional awareness and regulation (Zamir & Lavee, 2015; 2016) appear to protect survivors of CM from intimate-partner violence revictimization in adulthood. Thus, bolstering ER skills and mitigating the impact of psychopathology in survivors of CM is of the utmost importance.

Interventions targeting emotion regulation. According to a recent meta-analysis (see Melton et al., 2020), some of the most common trauma-focused interventions, such as Cognitive Processing Therapy (CPT) and Eye Movement Desensitization and Reprocessing (EMDR), may not be the most effective options for treating trauma-related ER difficulties. Instead, phase-based approaches that prioritize stabilization and the acquisition of ER skills prior to exposure are recommended for survivors of CM (Melton et al., 2020). STAIR Narrative Therapy is one example of a phase-based ER intervention that was developed specifically for child abuse survivors (see Hassija & Cloitre, 2015 for review). Informed by the principles of Dialectical Behavioural Therapy (Linehan, 1993), attachment theory (Bowlby 1969), and Narrative Therapy (White et al., 1990), the intervention consists of two phases: 1) Skills Training in Affect and Interpersonal Regulation (8 sessions) and 2) narrative exposure to the traumatic experiences, which includes the modification of trauma-related schemas and meaning making (8 sessions). Research in survivors of CM has shown that STAIR Narrative Therapy is effective for improving PTSD, dissociative symptoms, interpersonal problems, and the ability to regulate negative moods (Cloitre et al., 2010; Cloitre et al., 2012). The intervention has also been adapted for adolescents (Gudiño et al., 2017), which suggests that it could be implemented as a preventative intervention aimed at ameliorating these difficulties before survivors of CM become parents.

Another intervention that could be effective specifically for young mothers who have experienced interpersonal trauma is TARGET, which stands for Trauma Affect Regulation: Guide for Education and Therapy (Ford & Ford, 2018). Using a strengths-based psychoeducation approach in conjunction with behavioural exercises, TARGET aims to help mothers recognize the adaptive function of their trauma responses, reduce hypervigilance, enhance mothers' capacity for ER, and improve reflective functioning so that they can be more attuned to their own and their child's inner states (Ford et al., 2011; Ford & Ford, 2018). Given that reflective functioning and ER are both necessary for the development of secure attachment (Camoirano, 2017; Schore & Schore, 2008), administering TARGET to young mothers could help improve the quality of the parent-child attachment relationship before children reach adolescence and interrupt the intergenerational transmission of unsupportive emotion socialization by promoting mothers' ER and reflective functioning skills (see Milan et al., 2021 and Schultheis et al., 2019).

Interventions targeting parent-adolescent attachment. When early intervention is not possible, the results of Study 2 suggest that treatments targeting parent-adolescent relationship quality may buffer against unsupportive ERSBs. Attachment-Based Family Therapy (ABFT; Diamond et al., 2013) is one intervention that can help to improve parents' internal working models of the adolescent through individual sessions, while family sessions can be used to improve parent-adolescent communication and increase the parents' capacity for empathetic responding (Kobak & Kerig, 2015). However, most studies on ABFT have focused on youth outcomes (see Diamond et al., 2016 for review) and as such, more research is needed to ascertain whether the positive changes that have been observed are attributable to shifts in parents' internal working models and subsequent improvements in the parent-child attachment relationship (Kobak & Kerig, 2015). One intervention which has been effective in inducing positive changes in parents' internal representations of their adolescent is The Connect Program: an attachment-based program for parents of teens (see Moretti et al., 2017). Connect is a trauma-informed parenting program that aims to improve four aspects of parenting: caregiver sensitivity, parental reflective functioning, dyadic affect regulation, and shared partnership/mutuality. By targeting aspects of parenting that are most relevant to the attachment relationship, The Connect Program aims to shift parental representations of the adolescent, improve parental sensitivity, and reduce attachment insecurity and affect dysregulation in youth (Moretti et al., 2012; Moretti et al., 2015; Moretti et al., 2017). In turn, improvements in the quality of the parent-adolescent relationship could contribute to positive shifts in parents' ERSBs.

Interventions targeting parental emotion socialization. Lastly, interventions that target parental ERSBs directly should be made available to survivors of CM. For instance, Tuning into Teens (TINT; Havighurst et al., 2015) is a universal prevention program that teaches parents how to respond more effectively to their adolescents' negative emotions. By focusing on emotion coaching behaviours (e.g., reflecting, naming, and validating the teen's emotions) and teaching parents ER skills (e.g., how to manage their own impulsive reactions), the program aims to improve parents' ERSBs and reduce parent-adolescent conflict. Relative to parents who did not participate in the intervention, parents who participated in TINT reported lower levels of impulse control difficulties, reductions in unsupportive ERSBs (e.g., emotion dismissing), lower levels of family conflict, and reductions in youth externalizing difficulties (Havighurst et al., 2015).

Concomitant with universal prevention programs, which may not be sufficiently intensive to address the needs of at-risk families (see Maliken & Katz, 2013), interventions that target emotion socialization have also been developed more specifically for trauma-exposed parents. For example, Katz and colleagues (2020) examined a novel emotion-coaching intervention designed specifically for survivors of intimate partner violence. Like the TINT program, the emotion-coaching intervention targeted mothers' ER skills and ERSBs, however it also included psychoeducation about trauma and anger, strategies aimed at helping mothers accept traumarelated emotions in the context of parenting, and ways to talk to children about the abuser and their exposure to domestic violence (Katz et al., 2020). Compared to mothers on the waiting list, mothers who participated in the intervention demonstrated improvements in emotional awareness, increases in their capacity for ER (as evidenced by physiological measures), increased use of supportive ERSBs (e.g., validation), and decreased use of unsupportive ERSBs (e.g., scolding). Benefits were also observed in the children of participating mothers, such as improvements in ER and reduced depressive symptoms (Katz et al., 2020).

Lastly, Tuning Relationships with Music (Colegrove et al., 2019) is an innovative approach designed specifically for parents with a history of interpersonal trauma and their adolescents. By incorporating principles of attachment theory, emotion-focused techniques, and trauma-informed approaches to relational therapy, the intervention works by teaching parents to manage trauma triggers that arise in the context of parent-adolescent interactions so that they can regulate their own emotions and respond more sensitively to their adolescents' distress (Colegrove et al., 2019). Music is integrated throughout the intervention as a non-verbal method through which parents and adolescents can cultivate greater awareness of their emotional states, get in touch with how their emotions may be experienced in the body, and engage in non-verbal emotional discussions (e.g., through instruments) (Colegrove et al., 2019). Relative to parent-adolescent dyads who received treatment as usual (e.g., generic psychological services or family therapy), parent-adolescent dyads who participated in the intervention reported reductions in conflict, higher levels of ER, lower levels of parental reactivity, and improvements in parents' emotional responsiveness (Colegrove et al., 2018). Although parents also reported reductions in unsupportive contingencies (e.g., dismissive, and punitive responses to their adolescents' negative emotions), these changes were not significant and more trials with larger sample sizes are needed (Colegrove et al., 2019).

Limitations and Directions for Future Research

The program of research described in this dissertation made several contributions to the literature and revealed important clinical implications outlined above. However, several limitations are worth noting to inform directions for future research.

First, the operationalization of CM and revictimization in both studies was based on a cumulative risk approach. Although the cumulative risk approach is advantageous in terms of its ability to account for the impact of multiple different types of CM and revictimization, a major limitation of this approach is that it treats different types of traumas as interchangeable and additive in their effects, rather than examining the synergistic effects of different types of CM or how trauma-related variables (e.g., developmental timing) influence ER and mental health outcomes (Flouri, 2008; Hodgdon et al., 2018; Putnam et al., 2013). As such, future research would benefit from examining how specific combinations of CM subtypes or specific combinations of CM and revictimization.

Similarly, the operationalization of ER difficulties in this program of research was based upon Gratz and Roemer's (2004) model of emotional dysregulation and focused on self-reported deficits in specific ER skills, which may have limited the amount of variance that was accounted for in Study 1. Given that ER is a multi-faceted construct that involves cognitive, emotional, somatic, and behavioural elements (Gross, 2015), conducting studies that quantify ER using multiple methods of assessment (e.g., self-report, observation of dyadic interactions, measurements of specific ER strategies, physiological reactivity; see Shaffer et al., 2018) would be useful for furthering our understanding of the relationships between CM, ER, and ERSBs.

The current program of research also relied exclusively on questionnaire-based measures some of which were retrospective (e.g., mothers' CM histories, young adults' recollections of emotion socialization during adolescence). Questionnaires were presented in the same order for each participant such that questions pertaining to mothers' histories of CM were answered prior to questionnaires that asked mothers about their revictimization experiences, mental health symptoms, ER difficulties, and the mother-child relationship. Questions pertaining to perceptions of maternal ERSBs were presented after young adults had reported on their own ER difficulties. As such, we cannot rule out the possibility that the sequence in which the questionnaires were presented had an impact on our results (e.g., it is possible that current levels of ER difficulties influenced young adults' recollections of their mother's parenting behaviours). There were also questionnaires that were based on information from only one informant (e.g., mothers' perceptions of the parent-child attachment relationship). Attachment is a dyadic construct that reflects the quality of parent-child interactions and may be differentially related to different types of ERSBs (i.e., parents' emotional expressivity vs. emotion-related discussions vs. parents' use of supportive or unsupportive contingencies) (Eisenberg et al., 2020). As such, future research

would benefit from using interview or observational methods to ascertain how attachment quality might influence a wider range of ERSBs during adolescence. Further, given that this program of research used young adults' retrospective reports of emotion socialization during adolescence within the context of a cross-sectional design, our findings should be replicated either in a crosssectional study of adolescents and their parents or in the context of a longitudinal study to verify the associations that were observed. Our reliance on a retrospective self-report measure of CM is also a limitation given that using a single method to identify CM may overlook certain cases (Shaffer et al., 2008). Furthermore, the present study did not assess whether participants had reported or disclosed their maltreatment experiences prospectively during childhood or adolescence. Although prospective and retrospective reports of CM produce similar rates of maltreatment (Newbury et al., 2018), agreement on these measures is typically poor as they tend to capture distinct groups of individuals (Baldwin et al., 2019). As such, future studies would benefit from combining multiple sources of information (Newbury et al., 2018) and investigating whether different mechanisms of risk are involved for those whose CM experiences are recorded prospectively versus retrospectively (Baldwin et al., 2019).

Lastly, online data collection proved to be convenient in the COVID-19 context. Of the 185 dyads included in the present studies, young adults reported that they were mainly recruited through university email list-servs (42.2%) or through Facebook ads (31.4%) while mothers reported that they were mainly recruited through their child (45.9%) or word-of-mouth (21.6%). However, this method of data collection resulted in several limitations (e.g., self-selection bias and the demographic homogeneity of the present sample). Culture is a factor that is known to influence parents' ERSBs (Camras et al., 2014), the development of ER (Kim & Sasaki, 2012; Trommsdorff & Heikamp, 2013), and the impact of ERSBs on emotional functioning in

adulthood (Leerkes et al., 2014; Perry et al., 2017; Teo et al., 2017), however the majority of our participants identified as White women, which precluded us from conducting a nuanced analysis of potential cultural differences. Similarly, although the gender of the young adult has been shown to differentially influence outcomes with respect to remembered ERSBs (Guo et al., 2017; O'Leary et al., 2019), Study 1 did not detect significant gender differences, perhaps because the majority of young adults identified as daughters versus sons.

Future studies should strive to recruit more representative samples so that cultural diversity and gender differences can be accounted for, and the findings can be generalized with more accuracy. Such studies should also focus on recruiting participants from a wider array of socio-economic backgrounds, given that most mothers in our sample endorsed high levels of education, economic wellbeing, and did not reside in disadvantaged neighborhoods. Living in neighborhoods afflicted by high rates of unemployment and poverty may result in increased social isolation and parenting stress (Belsky & Jaffee, 2015), thereby increasing the demand on parents' self-regulatory capacities. However, the degree to which these demographic influences affect parenting behaviour may also depend on other individual, family, or other contextual characteristics (Belsky, & Jaffee, 2015). As such, it is difficult to ascertain whether the findings from the present studies would generalize to families from more disadvantaged backgrounds, underscoring the need for future studies to recruit more representative samples. In a similar vein, research on emotion socialization and the impacts of CM and its sequalae on parenting behaviours have predominantly focused on mothers (Greene et al., 2020; O'Leary et al., 2019; Wilson et al., 2016). Future research on CM, ER, and emotion socialization should focus on fathers, who have been largely neglected in the literature (see Yan et al., 2016). There is some evidence to suggest that optimal parenting from at least one parent may protect against the

development of certain ER difficulties (e.g., alexithymia) when parenting behaviors from the other parent are perceived as non-optimal (Kooiman et al., 2004). However, the interactions between maternal and paternal emotion dysregulation and socialization appear to be particularly influential to children's emotional competence (Han et al., 2015), which highlights the importance of studying both caregivers together.

Conclusion

Approximately three in five Canadian adults who are middle aged or older report having had adverse childhood experiences, with childhood physical abuse, exposure to intimate partner violence, and emotional abuse being the most frequently reported (Joshi et al., 2021). Given that most adults who have survived CM never disclose their experiences nor seek support (Burczycka & Conroy, 2017), it is crucial to understand the intergenerational effects of CM and the ways in which we can prevent the continuity of maladaptive parenting behaviours that confer the risk of emotional dysregulation and psychopathology to survivors' offspring. The present program of research provided initial support for the notion that maternal ER difficulties (i.e., with impulse control and emotional clarity in particular) stemming from a history of cumulative CM can contribute to unsupportive contingencies and the intergenerational transmission of ER difficulties to young adults in the next generation. The results also identified other multi-level stressors (i.e., maternal dissociative symptoms and experiences of revictimization) and supports (i.e., motherchild attachment quality) that may contribute to, or discourage, unsupportive contingencies. These results highlight the importance of ER and attachment-focused interventions for mothers with a history of CM and emphasize the need to prevent revictimization in this population. More specifically, interventions that provide psychoeducation about CM and the impact of trauma on parenting in conjunction with skills-based components that enhance mothers' capacity for ER

and emotion coaching can help to improve the quality of the parent-child attachment relationship and foster more supportive ERSBs (e.g., Ford & Ford, 2018; Katz et al., 2020). However, longitudinal studies are needed to replicate the findings observed in this program of research. Future studies should also strive to recruit more representative samples and expand the scope of this research to fathers. Finally, despite the challenges faced by survivors of CM and their families, it is crucial to acknowledge the strengths that have enabled them to persist in the face of adversity. Empowering survivors and building on their capacity for resilience is of the utmost importance, as is the adoption of a systemic public health approach (e.g., Malvaso et al., 2020) that is aimed at preventing the occurrence of CM in the first place.

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Appendix A

Ethical Approval and Amendment

The McGill

Research Ethics Board Office James Administration Bldg. 845 Sherbrooke Street West. Rm 325 Montreal, QC H3A 0G4

Website: www.mcgill.ca/research/researchers/compliance/human/

Research Ethics Board II Certificate of Ethical Acceptability of Research Involving Humans

Tel: (514) 398-6831

REB File #: 278-1118

Project Title: Intergenerational Continuity and Discontinuity of Family Violence: Exploration of Potential Risk and Protective Mechanisms

Lead Investigator: Professor Rachel Langevin

Department: Educational & Counselling Psychology

Co-Investigators: Prof. Mylène Fernet (Université du Québec à Montréal), Prof. Audrey Brassard (Université de Sherbrooke)

Approval Period: December 12, 2018 - December 11, 2019

The REB-II reviewed and approved this project by delegated review in accordance with the requirements of the McGill University Policy on the Ethical Conduct of Research Involving Human Participants and the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans.

Georgia Kalavritinos Ethics Review Administrator

^{*} Approval is granted only for the research and purposes described.

^{*} Modifications to the approved research must be reviewed and approved by the REB before they can be implemented.

^{*} A Request for Renewal form must be submitted before the above expiry date. Research cannot be conducted without a current ethics approval. Submit 2-3 weeks ahead of the expiry date.

^{*} When a project has been completed or terminated, a Study Closure form must be submitted.

^{*} Unanticipated issues that may increase the risk level to participants or that may have other ethical implications must be promptly reported to the REB. Serious adverse events experienced by a participant in conjunction with the research must be reported to the REB without delay.

^{*} The REB must be promptly notified of any new information that may affect the welfare or consent of participants.
* The REB must be notified of any suspension or cancellation imposed by a funding agency or regulatory body that is related to this study.

^{*} The REB must be notified of any findings that may have ethical implications or may affect the decision of the REB.

McGill University

ETHICS REVIEW AMENDMENT REQUEST FORM

This form can be used to submit any changes/updates to be made to a currently approved research project. Changes must be reviewed and approved by the REB before they can be implemented.

Significant or numerous changes to study methods, participant populations, location of research or the research question or where the amendment will change the overall purpose or objective of the originally approved study will require the submission of a complete new application.

REB File #: 278-1118

Project Title: Intergenerational Continuity and Discontinuity of Family Violence: Exploration of Potential Risk and Protective Mechanisms Principal Investigator: Rachel Langevin Email: rachel.langevin@mcgill.ca Faculty Supervisor (for student PI):

1) Explain what these changes are, why they are needed, and if the risks or benefits to participants will change.

We conducted a pilot project in Winter 2019 and based on some issues that arose during the pilot, we decided to revise some of our procedures. None of the proposed changes to the project will affect the risks or benefits to participants.

- A) To improve the participation rates for the second member from the dyad (most often the mother), we decided to enroll participants using a two-step procedure. For the first step, individuals interested in participating in the research project will click on a link that will bring them to a Qualtrics screening survey. This screening survey will be structured to obtain the consent of the first respondent, the names of both members of the dyad, and the contact information (email address) of the first respondent. The first respondent will also provide the contact information for the second member of the dyad, specifying whether that person would be easier to reach via email or telephone. If the first respondent indicates that telephone is the preferred way to reach the second respondent, we will ask them to provide the phone number of this individual. Only prospective participants who provide the contact information for the second member of the second member of the dyad will be enrolled in the study. Subsequently, the first respondent will be sent a link via email to the full survey. Prior to filling out the full survey, participants will be asked to reiterate their consent (consent form will be displayed again). The second member of the dyad will then be invited to participate in the study via email (by sending a link to the complete survey) and a phone call if this is the preferred method of contact indicated by the first respondent.
- B) Since the emotion recognition task (ERI) with the visual and vocal subtests was taking a lot of time to complete, we decided to get rid of the vocal subtest and only keep the visual subtest.
- C) One of my students (Sarah Cabecinha-Alati, PhD student in Counselling Psychology) is interested in looking at a variable that was not included in the original version of the survey. As such, we added a new measure that will be filled out by both the mother and the young adult. This measure entitled the Coping with Children's Negative Emotions Scale (Fabes, Eisenberg & Bernzweig, 1990; Fabes & Eisenberg, 1998) is designed to assess mothers' emotion socialization practices. For the purposes present study, the questionnaire will be modified to be worded retrospectively (see Lugo-Candelas, Harvey, Breaux & Herbert, 2016 for precedent). More specifically, mothers will be asked to think back to when their child was a teenager and indicate how they responded to their adolescent's negative emotions (e.g. anger, anxiety, sadness). Similarly, young adults will be asked to think back to their adolescence and indicate how their megative emotions. The student is interested in looking at Submit by email to <u>lvnda.mcneil@mcgill.ca</u>. REB Office: James Administration Building, 845 Sherbrooke Street West suite 429, fax: 398-4644 tel: 398-6831/6193; www.mcgill.ca/research/researchers/compliance/human

(August 2014)

whether mothers' experiences of family violence in childhood have an adverse effect on their emotion regulation abilities, and in turn, whether these two variables influence maternal emotion socialization practices.

D) To assist with screening out careless responders we will be adding 7 directed questions that will be randomly distributed on each page of the survey to assess whether participants are paying attention or answering randomly. Directed questions will be adapted based on the guidelines outlined by Maniaci and Rogge (2014) and will appear similar to the following:

To show that you are reading these questions carefully, select 'Always' as your answer.

Similarly, we will include one question that asks participants to report whether they feel that their data is valid enough to be used in our analyses. This question was adapted based on the guidelines outlined by Meade and Craig (2012) and will appear as the following:

It is vital to our study that we only include responses from people that have devoted their full attention to this study. Otherwise, a great deal of effort (on the part of the researchers and the time of other participants) could be wasted. You will receive credit for this study (i.e., by being entered into the prizewinning draw) no matter what, however we would like to know whether you think the responses you gave in this survey are valid to use in our analyses. In your honest opinion, should we use your data in our analyses for this study? Yes/No

2) Attach relevant additional or revised documents such as questionnaires, consent forms, recruitment ads.

See Appendix A. for the telephone script (applicable to the second member of the dyad for whom telephone is the preferred method of contact).

See Appendix B. for the Coping with Children's Negative Emotions Scale (both of the original and modified retrospective versions are provided)

See Appendix C. for revised consent forms – wording changed for the initial screening survey (Appendix C.1) vs. full survey (Appendix C.2).

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Submit by email to <u>lynda.mcneil@mcgill.ca</u>. REB Office: James Administration Building, 845 Sherbrooke Street West suite 429, fax: 398-4644 tel: 398-6831/6193; www.mcgill.ca/research/researchers/compliance/human (August 2014)

Principal Investigator Signature: _ Reach Starter	
Faculty Supervisor Signature:	Date:June 4 th , 2019
For Administrative Use: REB#278-1118 REB: REB-I Delegated Review Full Review	<u>× REB-III</u> <u>REB-III</u>
<u>x</u> This amendment request has been by reference ^{Digitally signed by tyndam.cneil@mcgill.ca Distance by tyndam.cneil@mcgill.ca Distan}	Date:

Submit by email to <u>lynda.mcneil@mcgill.ca</u>. REB Office: James Administration Building, 845 Sherbrooke Street West suite 429, fax: 398-4644 tel: 398-6831/6193; www.mcgill.ca/research/researchers/compliance/human (August 2014)

Appendix B

Research Consent Form

3/27/2020

Qualtrics Survey Software

English 🗘

Consent

Please note that certain components of the survey are not compatible with Safari or Internet Explorer. To avoid any problems, please ensure that you fill out the survey using Mozilla Firefox or Google Chrome

This study aims to examine the associations among childhood adversity, emotional and psychological well-being, and relationship quality in mother-young adult pairs. For the purpose of this study, you may have one of two roles - you must be either a young adult aged 18-25 or the mother of a young adult aged 18-25.

I am a...

- O Young adult aged 18-25
- O Mother of a young adult aged 18-25

GENERAL INFORMATION

Institution: Department of Educational and Counselling Psychology, Faculty of Education, McGill University

Title of Project: The Childhood Adversity Study

Principal Investigator: Dr. Rachel Langevin

Collaborators: This study is being conducted in collaboration with researchers from Université du Québec à Montréal and Université de Sherbrooke.

Funding: Fonds de recherche du Québec – Société & Culture (FRQ-SC); Social Sciences and Humanities Research Council (SSHRC)

Dear participant,

We invite you to participate in a research project that is aimed at understanding the impacts of childhood adversity on individuals and their emotions and relationships.

3/27/2020

Qualtrics Survey Software

In this initial questionnaire, we will ask you to provide your contact information. If you are the first respondent, we will also ask you to provide the contact information (i.e., email address and telephone number) for the other member of your family (i.e., your young adult child or your mother). If you agree to participate in this study, you will be automatically redirected to the online survey after completing this initial questionnaire.

Please note that if you are the first respondent, we will send you a follow up email to confirm your unique participant ID. Please be sure to inform the other person in your family that we will be sending them an e-mail link inviting them to participate.

Please consider the following information before you agree to participate in this research project. This consent form explains the goal of the study, the procedures, advantages, risks and inconveniences, as well as listing people to contact should the need arise.

What is the purpose of the study?

This study aims to examine the associations among childhood adversity, emotional and psychological well-being, and relationship quality between mothers and young adults. The results of the study will provide a better understanding of the experiences of individuals exposed to adverse life events and will be used to develop and bonify interventions offered.

What will you be required to do?

Upon consenting to your participation in this study, you will take part in an online measurement session where you will be asked to fill out a series of questionnaires. The total time required to complete the survey will be approximately 45 minutes. Every participant who completes the full survey will be entered into a draw for the chance to win 1 of 2 iPads! Odds of winning are 2 in 1000. In addition, participants who complete the study in mother-young adult pairs will each receive a \$5 e-gift card (redeemable at any Second Cup Coffee Co.). In order to receive your compensation, you must provide a valid email address. Suspicious looking email addresses (e.g., bXy1234@hotmail.com) will need to be verified with a follow-up email prior to distributing the \$5 compensation. Participants who receive a follow-up email will have 3 weeks to respond. Otherwise, compensation will be issued within 30 days of the second member's participation.

Risks and inconveniences: You may experience discomfort in responding to questions concerning difficult experiences in your childhood and/or due to the other member of your family having responded to similar questions. Under these circumstances, the following resources are available to you should you need service.

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Montreal/Quebec:

1. Tel-Aide: 514-935-1101. Tel-Aide is a free, anonymous, non-judgmental listening service for people in Montreal who are experiencing distress <u>http://www.telaide.org/resources</u>

Provincial Resource Line for Victims of Sexual Assault: 1-888-933-9007. This is a toll-free hotline, information, and referral service for residents of Quebec who have experienced sexual assault, as well as their loved ones and caregivers http://agressionsexuellemontreal.ca/urgence/ligne-ressource
 CLSC: Your local CLSC provides common health and social services. Contact your local CLSC for more resources http://sante.gouv.qc.ca/en/repertoire-ressources/clsc/
 If you have any further questions or concerns that need to be addressed, you may also contact Dr.

Rachel Langevin who will see to it that you receive the help you need.

Canada-wide:

 Crisis Services Canada: This website offers a list of local distress centres and crisis organizations that can offer support. Simply select your province and browse the list of resources that are available in your region.<u>https://www.crisisservicescanada.ca/en/looking-for-local-resources-support/</u>
 Crisis Text Line: Text HOME to 686868 to text with a trained crisis responder to bring texters from a hot moment to a cool calm through active listening and collaborative problemsolving <u>https://www.crisistextline.ca/</u>

Privacy and confidentiality: Your personal information will be coded (ex. 2018P001) and will not be shared under any circumstances, including with the other participating member of your family. This information will only be known to the principal investigator (Dr. Rachel Langevin) and research coordinator who will be recording your coded ID. All study information will be designated by that number and therefore, identifying information will not be provided. Further, the primary investigator will ensure confidentiality with respect to specific information concerning your participation and will store all data files on a password-protected computer. Results of this study may be published in scientific journals and presented at professional conferences, but no one will be identifiable in any publication of results. Your identifying information will be destroyed 7 years after the end of the study, and only redacted information will be kept in our datasets following that period (e.g., answers to the questionnaires).

Funding agencies and publishers often ask researchers to make their research data accessible to other researchers upon completion of their study. Making research data available to others allows qualified researchers to reproduce scientific findings and stimulates exploration of existing data sets. In line with these requirements, we will preserve the data for future reuse. To ensure confidentiality, the shared data https://cripcas.eu.qualtrics.com/Q/EditSection/Blocks/Ajax/GetSurveyPrintPreview?ContextSurveyID=SV_38eyq5jjtoNRpu5&ContextLibraryID=UR_1QULYw8Ba... 3/7

3/27/2020

Qualtrics Survey Software

will be stripped of any information that could potentially identify the participant.

Declaration of the participant: I have read the study description and have been fully informed about the procedures, demands, risks, and benefits of the study. Participation in this study is voluntary and I understand that I may decline to answer any questions or withdraw from the study at anytime, for any reason, without reprisals. By clicking "yes" I am confirming that I have read the above information and consent to participating in this study. I understand that agreeing to participate in this study does not waive any of my rights or release the researchers from their responsibilities. To ensure the study is being conducted properly, authorized individuals such as a member of the Research Ethics board may have access to my information. By clicking "yes" on this consent form, I am allowing such access.

If you have any questions regarding the study, feel free to direct your queries to the principal investigator. If you have any ethical concerns or complaints about your participation in this study, and want to speak with someone not on the research team, please contact the McGill Ethics Manager (514) 398-6193 or deanna.collin@mcgill.ca. REB file #: 278-1118

Sincerely, Principal Investigator Rachel Langevin, PhD, PsyD Assistant Professor Counselling Psychology Program Department of Educational and Counselling Psychology Faculty of Education McGill University Telephone: (514) 398-8349 rachel.langevin@mcgill.ca

Do you agree to participate in this study? If so, please print or screenshot a copy of this consent form for your records.



Contact Information

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Please provide **your e-mail address** in the space below:

This study aims to examine the associations among childhood adversity, emotional and psychological well-being, and relationship quality in mother-young adult pairs. For the purpose of this study, you must be either a young adult aged 18-25 or the mother of a young adult aged 18-25.

This study requires **both** members of the pair to complete questionnaires. Were you referred to this survey by the other member of your family?

- O No, I am the first respondent
- O Yes, I am the second respondent

If you are the first respondent, you must provide contact information for the second respondent so that they can be invited to complete questionnaires as well.

Please provide the first and last name of the second respondent in the space below:

First name

Last name

Please provide the e-mail address of the second respondent in the space below:

What would be the best way to reach the second respondent?

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BernailTelephone

Qualtrics Survey Software

Please provide a **telephone number** for the **second respondent** in the space below:

Directions

Below is your participant ID number.

Please copy this number and save it for future reference. You will need it to complete the online survey.

\${e://Field/RANDOM}

If you have any questions regarding the study, feel free to direct your queries to the principal investigator. If you have any ethical concerns or complaints about your participation in this study, and want to speak with someone not on the research team, please contact the McGill Ethics Manager (514) 398-6193 or deanna.collin@mcgill.ca. REB file #: 278-1118

Sincerely, **Principal Investigator** Rachel Langevin, PhD, PsyD Assistant Professor Counselling Psychology Program Department of Educational and Counselling Psychology Faculty of Education McGill University Telephone: (514) 398-8349 rachel.langevin@mcgill.ca

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Appendix C

Questionnaires

3/27/2020

Qualtrics Survey Software

English

Participant information

This study aims to examine the associations among childhood adversity, emotional and psychological well-being, and relationship quality in mother-young adult dyads. For the purpose of this study, you may have one of two roles - either a young adult aged 18-25 or you are the mother of a young adult aged 18-25.

Once again, please confirm whether you are a...

- O Young adult aged 18-25
- O Mother of a young adult aged 18-25

Please reiterate whether you are the first or second respondent.

- O I am the first respondent
- O I am the second respondent

Please enter your Participant ID code here.

General Information - Mother

Date of birth (yyyy/mm/dd)

Gender

O Female

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3/27/2020		Qualtrics Survey Software
0	Male	
0	Other (specify)	
0	Decline to answer	

Relational status

- O Married or in registered partnership, living with your partner.
- O In a relationship, living with your partner
- O In a relationship, or a non-exclusive romantic or sexual partnership, not living with your partner
- O Not currently in an intimate relationship, but have had one in past
- O I have never had an intimate relationship
- O Decline to answer

Specify the duration

Year(s)

Month(s)

_		
_		

Gender of the partner

O Woman

O Man

_

Other (specify)

Ο	Decline to answer		

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3/27/2020

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Family status

- O I am still with the parent of my child/children
- O I am still with the parent of at least one of my children
- O I am separated/divorced from the parent(s) of my children/child
- O Other (specify)
- O Decline to answer

I am separated/divorced from the father(s)/mother(s) of my children/child

- O I have full custody
- O We have shared custody
- O I do not have custody

Number of children

Over 18 years old Under 18 years old

Age when the first child was born



Country of birth

O Canada

3/27/2020		Qualtrics Survey Software
O Othe	r (specify)	
		11
O Decli	ne to answer	

Self-identified ethnic group membership

- O Caucasian
- O Black
- O Asian
- O Hispanic
- O Indigenous/Native American
- O Arab/Middle Eastern
- Other (specify)
- O Decline to answer

Education (diploma)

- O Elementary school or less
- O High School
- O CEGEP or professional school
- O Undergraduate (bachelor, certificate)
- O Graduate (masters, doctoral)
- O Decline to answer

Main current occupation

Working for pay or profit

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O Full-time (35h/week or more)

O Part-time (less than 35h/week)

O Unemployed

O Pupil, student, further training, unpaid work experience

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O In retirement

O Permanently disabled

O Parental leave

O In compulsory military or community service

O Fulfilling domestic tasks

O Other (specify)



Current professional category

O Manager

O Professional

O Technician and associate professional

O Clerical support worker

O Service and sales worker

O Skilled agricultural, forestry, fishery worker

O Craft and related trades worker

O Plant and machine operator and assembler

O Elementary occupation

O Armed forces

O No paid occupation

O Other (specify)

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O Don't know/decline to answer

Qualtrics Survey Software

Annual household income

- O Less than \$20 000
- **()** \$20 000-39 999
- \$40 000-59 999
- \$60 000-79 999
- \$80 000-99 999
- \$100 000-119 999
- O \$120 000 or more
- O Decline to answer

Are you ...

- O Owner of your house, apartment, or condo
- O Renting your house, apartment, condo, or room
- O Living with your parents
- O Living in someone else's house, apartment, or condo without monetary compensation
- O Other (specify)

O Decline to answer

Postal code

First three digits of postal code (ex. H7K)

Do you have any confirmed medical diagnoses?



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3/27/2020	Qualtrics Survey Software
0	Mental health (anxiety disorder, mood disorder, trauma and stress related disorder, etc.) (specify)
0	Physical health (specify)
0	Both - Mental and physical health (specify)
0	Don't know/decline to answer

Are you taking prescribed medication on a regular basis?

- O_{No}
- O Yes for a mental health issue
- O Yes for a physical health issue
- O Yes for both mental and physical health issues
- O Decline to answer

Have you ever consulted a mental health professional (ex. psychiatrist, psychologist, social worker, etc.)?

- O Yes
- O No
- O Don't know/decline to answer

General Information - Young Adult

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3/27/2020	Qualtrics Survey Software
Date of birth (yyyy/mm/dd)	
Gender	
O Female	
O Male	
O Other (specify)	
O Decline to answer	
Relational status	
O Married or in registered partnership, living	with your partner
O In a relationship, living with your partner	
 In a relationship, or a non-exclusive roman partner 	tic or sexual partnership, not living with your
O Not currently in an intimate relationship, but	ut have had one in past

- O I have never had an intimate relationship
- O Decline to answer

Specify the duration

Year(s)

Month(s)

		_

Gender of the partner

O Woman

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3/27/2020) Qua Man	altrics Survey Software
_	Other (specify)	
0	Decline to answer	
Farr	nily status	
0	l don't have children	
0	I am still with the parent of my child/children	
0	I am still with the parent of at least one of my	children
0	I am separated/divorced from the parent(s) of	my children/child
0	Other (specify)	
0	Decline to answer	
l am	n separated/divorced from the father(s)/m	nother(s) of my children/child
0	I have full custody	
_	We have shared custody	
_	I do not have custody	
Nun	mber of children	
Farr	mily of origin status	

 $https://cripcas.eu.qualtrics.com/Q/EditSection/Blocks/Ajax/GetSurveyPrintPreview?ContextSurveyID=SV_a4AufWAoaBfmmyh&ContextLibraryID=UR_1QULY\dots 9/56$

3/27/2020		Qualtrics Survey Software
0	untry of birth Canada Other (specify)	
Self O O O O O O	Decline to answer f-identified ethnic group membership Caucasian Black Asian Hispanic Indigenous/Native American Arab/Middle Eastern Other (specify)	
	Decline to answer	

Education (diploma)



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3/27/2020

- O High School
- O CEGEP or professional school
- O Undergraduate (bachelor, certificate)
- Graduate (masters, doctoral)
- O Decline to answer

Main current occupation

Working for pay or profit

- Full-time (35h/week or more)
- O Part-time (less than 35h/week)
- O Unemployed
- O Pupil, student, further training, unpaid work experience
- O In retirement
- O Permanently disabled
- O Parental leave
- O In compulsory military or community service
- O Fulfilling domestic tasks
- O Other (specify)
- O Decline to answer

Main current professional category

- O Manager
- O Professional
- O Technician and associate professional
- O Clerical support worker
- O Service and sales worker
- O Skilled agricultural, forestry, fishery worker
- O Craft and related trades worker

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3/27/2020

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- O Plant and machine operator and assembler
- O Elementary occupation
- O Armed forces
- O No paid occupation
- O Other (specify)

O Don't know/decline to answer

Annual household income

- O Less than \$20 000
- \$20 000-39 999
- **(** \$40 000-59 999
- **(** \$60 000-79 999
- \$80 000-99 999
- \$100 000-119 999
- \$120 000 or more
- O Decline to answer

Are you ...

- Owner of your house, apartment, or condo
- O Renting your house, apartment, condo, or room
- O Living with your parents
- O Living in someone else's house, apartment, or condo without monetary compensation
- O Other (specify)

O Decline to answer

3/27/2020	Qualtrics Survey Software
Postal code First three digits of postal code (ex. H7K)	
Do you have any confirmed medical diagr	noses?
O No	
(specify)	rder, trauma and stress related disorder, etc.)
Physical health (specify)	
O Both - Mental and physical health (specify))
O Don't know/decline to answer	

Are you taking prescribed medication on a regular basis?

- O_{No}
- O Yes for a mental health issue
- O Yes for a physical health issue
- O Yes for both mental and physical health issues
- O Decline to answer

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Qualtrics Survey Software

Have you ever consulted a mental health professional (ex. psychiatrist, psychologist, social worker, etc.)?

O Yes

O No

O Don't know/decline to answer

Measures

Economic Well-Being

This questionnaire aims to assess your household financial comfort. Please answer yes or no based on your current financial status

	Yes	Nc
1. Can you afford to replace or have repaired broken or damaged appliances such as a vacuum or a toaster?	0	0
2. Can you afford to replace worn-out furniture in your house or apartment?	0	Ο
Could you afford to cover an unexpected expense today of \$500 from your own resources?	0	0
4. Can you afford to pay your bills on time?	0	Ο
5. Can you afford to have access to the internet at home?	0	Ο
6. Can you afford to keep your house or apartment at a comfortable temperature?	0	0
	Yes	Nc
7. Can you afford to get around your community, by car, by bus, or an equivalent mode transportation?	of O	0
8. Can you afford to have friends or family come over for a meal at least once a month?	0	Ο
9. Can you and each member of your household afford to get regular dental care if needed?	0	0
10. Can you afford to buy some small gifts for family or friends at least once a year?	0	Ο
11. Can you afford a house or apartment free of unwanted pests, such as cockroaches, mice, or bedbugs?	0	0
12. Can you and each member of your household afford to eat fresh fruit and vegetables least once a day?	sat O	0
	Yes	Nc
13. Can you show that you are not distracted by selecting yes as your answer?	0	Ο
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	Yes	Nc
14. Can you and each member of your household afford to eat meat, chicken, fish, or a vegetarian equivalent at least once a day?	0	0
15. Can you and each member of your household afford to have at least two pairs of properly fitting footwear, including a pair of suitable winter footwear?	0	0
16. Can each adult in your household afford to have appropriate clothes for job interviews?	0	0
17. Can you and each member of your household afford to have a hobby or leisure activity?	0	0
18. Can each adult in your household afford to spend a small amount of money each week on themselves?	0	0

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Childhood Adversity

Before the age of 18

3/27/2020

	Yes	No
1. Were you ever not taken care of by your parent(s) or caretaker(s) when you were sick or injured even though they could afford it?	0	0
2. Have you ever not been given food to eat and/or drink even though your parent(s) or caretaker(s) could afford it?	0	0
3. Were you made to wear clothes that were dirty, torn, or inappropriate for the season when your parent(s) or caretaker(s) could afford it?	0	0
4. Have you ever been hurt or injured because no adult was supervising you?	0	0
5. Did your parent(s) or caretaker(s) not always provide a safe place to live even though they could afford it?	0	0

Before the age of 18, have you ever experienced one of the following at the hand of a parent or caregiver?

	Yes	No
1. Were you ever slapped in the face with an open hand by a parent or caregiver?	0	0
2. Were you ever burned with hot water, a cigarette or something else by a parent or caregiver?	0	0
3. Were you ever punched or kicked by a parent or caregiver?	0	0
4. Were you ever hit with an object that was thrown at you by a parent or caregiver?	0	0
5. Were you ever pushed or shoved by a parent or caregiver?	0	0

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Before the age of 18, have you ever experienced one of the following at the hand of a parent or caregiver?

	Yes	No
1. Were you often put down or ridiculed by a parent or caregiver?	0	0
2. Were you often ignored or made to feel like you didn't count by a parent or caregiver?	0	0
3. Were you often told you were no good by a parent or caregiver?	0	0
4. Most of the time were you treated in a cold, uncaring way or made to feel like you were not loved by a parent or caregiver?	0	0
5. Did your parents or caregivers often fail to understand you or your needs?	0	0

Before the age of 18

	Yes	No
1. Were you ever touched in an intimate or private part of your body (ex. breast, thigh, genitals) in a way that surprised you or made you feel uncomfortable?	0	0
2. Did you ever experience someone rubbing their genitals against you against your will?	0	0
3. Were you ever forced or coerced to touch another person in an intimate or private part of their body?	0	0
4. Did anyone ever have genital sex with you against your will?	0	0
5. Were you ever forced or coerced to perform oral sex on someone against your will?	0	0
6. Were you ever forced or coerced to kiss someone in a sexual rather than affectionate way?	0	0

Please specify if the experience was with (you can choose more than one):

A member	of	vour	immediate	or	extended	familv
 Amember	UI.	your	miniculate	U.	extended	raininy

Not a family member

Before the age of 18

Yes No

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3/27/2020	Qualtrics Survey Software		
		Yes	No
 In your childhood, have you seen your r belonging to their partner intentionally, crit threaten to hit them, or throw something a 	icize them on their appearance,	0	0
2. Have you ever seen your mother or fath partner?	er shove, hit, or throw things at their	0	0
3. Have you ever seen your mother or fath partner?	er kick, punch, or beat up their	0	0

Couple Conflicts

No matter how well a couple gets along, there are times when they disagree, get annoyed with the other person, want different things from each other, or just have spats or fights because they are in a bad mood or are tired or for some other reason. Couples also have many different ways of trying to settle their differences. This is a list of things that might happen when you have differences. Please mark how many times your partner did each of these things in the past year. If your partner did not do one of these things in the past year, but it happened to you before that, choose a "7" on your form for that question. If it never happened, mark an "8" on the form.

How often did this happen?

				In th	e past y	/ear		
	Once 1	Twice 2	3-5 times 3	6-10 times 4	11-20 times 5	More than 20 times 6	NOT in the past year, but it did happen before 7	This has never happened 8
1. My partner explained his/her side or suggested a compromise for a disagreement with me	0	0	0	0	0	0	0	0
2. My partner insulted or swore or shouted or yelled at me	0	0	0	0	0	0	0	0
3. I had a sprain, bruise, or small cut, or felt pain the next day because of a fight with my partner	0	0	0	0	0	0	0	0

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				In the	e past y	/ear		
	Once 1	Twice 2	3-5 times 3	6-10 times 4	11-20 times 5	More than 20 times 6	NOT in the past year, but it did happen before 7	This has never happened 8
 My partner showed respect for, or showed that he/she cared about my feelings on an issue we disagreed on 	0	0	0	0	0	0	0	0
5. My partner pushed, shoved, or slapped me	0	0	0	0	0	0	0	Ο
	Once 1	Twice 2	3-5 times 3	6-10 times 4	11-20 times 5	More than 20 times 6	NOT in the past year, but it did happen before 7	This has never happened 8
6. My partner punched, kicked, or beat me up	0	0	0	0	0	0	0	0
 My partner destroyed something belonging to me or threatened to hit me 	0	0	0	0	0	0	0	0
8. I went to see a doctor (M.D.) or needed to see a doctor because of a fight with my partner	0	0	0	0	0	0	0	Ο
9. My partner used force (like hitting, holding down, or using a weapon) to make me have sex	0	0	0	0	0	0	0	0
10. My partner insisted on sex when I did not want to or insisted on sex without a condom (but did not use physical force)	0	0	0	0	0	0	0	0

My Difficult Experiences

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Listed below are a number of difficult or stressful things that sometimes happen to people. For each event check one the boxes to the right to indicate that: (a) it happened to you personally; (b) you witnessed it happen to someone else; (c) you have both witnessed it and had it happen to you; or (d) did not happen to you.

Be sure to consider your entire life (growing up, as well as adulthood) as you go through the list of events.

If you reply to either: (a) it happened to you personally; (b) you witnessed it happen to someone else; or (c) you have both witnessed it and had it happen to you, **please specify your age at the time of the experience.**

*Please note that the options for "Did not		Exp	perienced
happen to me" and "Before 18" "After 18", and "Both" have been cut-off	Happened to me	Witnessed it	Both (happened to me & witnessed)
1. Natural disaster (ex. flood, hurricane, tornado, earthquake)	0	0	Ο
2. Fire or explosion	0	0	0
 Transportation accident (ex. car accident, boat accident, train wreck, plane crash) 	0	0	0
4. Serious accident at work, home, or during recreational activity	0	0	Ο
5. Exposure to toxic substance (ex. dangerous chemicals, radiation)	0	0	Ο
 Physical assault (ex. being attacked, hit, slapped, kicked, beaten up) 	0	0	Ο
 Assault with a weapon (ex. being shot, stabbed, threatened with a knife, gun, bomb) 	0	0	Ο
8. Sexual assault (rape, attempted rape, made to perform any type of sexual act through force or threat of harm)	0	0	Ο
9. Other unwanted or uncomfortable sexual experience	0	0	0
	Happened to me	Witnessed it	Both (happened to me & witnessed)
10. Combat or exposure to a war-zone (in the military or as a civilian)	0	Ο	Ο
 Captivity (ex. being kidnapped, abducted, held hostage, prisoner of war) 	0	0	Ο
12. Life threatening illness or injury	0	Ο	0

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3/27/2020 Qualtrics Surv	ey Software	oftware					
		Exp	perienced				
	Happened to me	Witnessed it	Both (happened to me & witnessed)				
13. Severe human suffering	0	0	0				
14. Sudden violent death (ex. homicide, suicide)	0	0	0				
15. Sudden accidental death	0	0	0				
16. Serious injury, harm, or death you caused to someo else	ne O	0	0				
17. Any other very stressful event	Ο	0	0				

A Stressful Experience

Below is a list of problems that people sometimes have in response to a very stressful experience. Keeping your worst event in mind, please read each problem carefully and then select one of the options below to indicate how much you have been bothered by that problem in the past month.

*Please note that the responses

IN THE PAST MONTH, how much were you bothered by:	"Quite a bit" and "Extremely" have been cut-off.					
	Not A at little all bit Moderately					
 Repeated, disturbing, and unwanted memories of the stressful experience? 	000					
2. Repeated, disturbing dreams of the stressful experience?	000					
3. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?	000					
4. Feeling very upset when something reminded you of the stressful experience?	000					
5. Having strong physical reactions when something reminded you of the stressful experience (ex. heart pounding, trouble breathing, sweating)?	000					
6. Could you select a little bit as your answer to show that you are reading carefully?	000					
	Not A at little all bit Moderately					
7. Avoiding memories, thoughts, or feelings related to the stressful experience?	000					

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3/2	7/2020 Qualtrics Survey Software			
		Not at all	A little bit	Moderately
	8. Avoiding external reminders of the stressful experience (ex. people, place, conversations, activities, objects, or situations)?	0	0	0
	9. Trouble remembering important parts of the stressful experience?	0	0	0
	10. Having strong negative beliefs about yourself, other people, or the work (ex. having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?	0	0	Ο
	11. Blaming yourself or someone else for the stressful experience or what happened after it?	0	0	0
	12. Having strong negative feelings such as fear, horror, anger, guilt, or shame?	0	0	0
		Not at all	A little bit	Moderately
	13. Loss of interest in activities that you used to enjoy?	0	0	0
	14. Feeling distant or cut off from other people?	0	0	0
	15. Trouble experiencing positive feelings (ex. being unable to feel happiness or have loving feelings for people close to you)?	0	0	0
	16. Irritable behaviour, angry outbursts, or acting aggressively?	0	0	0
	17. Taking too many risks or doing things that could cause you harm?	0	0	0
	18. Being "superalert" or watchful or on guard?	0	0	0
		Not at all	A little bit	Moderately
	19. Feeling jumpy or easily startled?	0	0	0
	20. Having difficulty concentrating?	0	0	0
	21. Trouble falling or staying asleep?	0	0	0

My Emotions

The following is a scale to assess how in touch you are with your emotions in your day to day life, how much you use the information your emotions give you, and how you react generally.

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	Almost never (0- 10%)	Sometimes (11-35%)	half the time (36- 65%)	Most of the time (66- 90%)	Almos alway: (91- 100%
1. I pay attention to how I feel	0	0	0	0	0
2. I have no idea how I'm feeling	0	0	0	0	0
3. I have difficulty making sense of my feelings	0	0	0	0	0
4. I am attentive to my feelings	0	0	0	0	0
5. I am confused about how I feel	0	0	0	0	0
6. When I'm upset, I acknowledge my emotions	0	0	0	0	0
	Almost never (0- 10%)	Sometimes (11-35%)	About half the time (36- 65%)	Most of the time (66- 90%)	Almos alway: (91- 100%
When I'm upset, I become embarrassed for feeling that way	0	Ο	0	0	0
8. When I'm upset, I have difficulty getting work done	0	0	0	0	0
9. When I'm upset, I become out of control	0	0	0	0	0
10. When I'm upset, I believe that I will remain that way for a long time	0	0	0	0	0
11. When I'm upset, I believe that I'll end up feeling very depressed	0	0	0	0	0
12. When I'm upset, I have difficulty focusing on other things	0	0	0	0	0
	Almost never (0- 10%)	Sometimes (11-35%)	About half the time (36- 65%)	Most of the time (66- 90%)	Almos alway: (91- 100%
13. When I'm upset, I feel ashamed with myself for feeling that way	0	0	0	0	0
14. When I'm upset, I feel guilty for feeling that way	0	0	0	0	0
15. When I'm upset, I have difficulty concentrating	0	0	0	0	0
16. When I'm upset, I have difficulty controlling my behaviors	0	0	0	0	0
17. When I'm upset, I believe that wallowing in it is all I can do	0	0	0	0	0

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Qualtrics Survey Software

Percentage (%)

My Well-Being

This questionnaire consists of 8 questions about experiences you have had in your daily life. We are interested in how often you have had these experiences. It is important, however, that your answers show how often these experiences happen to you **when you are not under the influence of alcohol or drugs**. To answer the questions, please determine to what degree the experience described in the question applies to you, and slide to the appropriate number to show what percentage of the time you have had the experience. If 0%, please make sure to still click the curser ensuring your answer of 0% is recorded.

	S	lide to	show	what pe		entage		this h	annens	s to vo	ue:
	0	10	20	30	40	50	60	70	80	90	100
1. Some people have the experience of finding themselves in a place and having no idea how they got there.			20								
2. Some people have the experience of finding new things among their belongings that they do not remember buying.											
3. Some people sometimes have the experience of feeling as though they are standing next to themselves or watching themselves do something and they actually see themselves as though they were looking at another person.											

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Qualtrics Survey Software Percentage (%) Slide to show what percentage of the time this happens to you.

0 10 20 30 40 50 60 70 80 90 100

 Some people are told that they sometimes do not recognize friends or family members.

 Some people sometimes have the experience of feeling that other people, objects, and the world around them are not real.

 Some people sometimes have the experience of feeling that their body does not seem to belong them.

 Some people find that in one situation they may act so differently compared to another situation that they feel almost as if they were completely different people.

 Some people sometimes find that they hear voices inside their head which tell them to do things or comment on things that they are doing.

My Relationship with my Child

The following statements concern how you feel about your relationship with your child, the one you are participating in the study with. Respond to each statement by choosing which best describes your perception of your relationship with them.

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	Almost never or	Not very			Almos alway: or
	never true	2	Sometimes true	Often true	alway: true
1. My child respects my feelings.	0	0	0	0	0
2. I feel my child is good.	0	0	0	0	0
3. I wish I had a different child.	0	0	0	0	0
4. My child accepts me as I am.	0	0	0	0	0
5. I like to get my child's point of view on things I am concerned about.	0	0	0	0	0
I feel it is no use letting my feelings show around my child.	0	0	0	0	0
7. My child can tell when I'm upset about something.	0	0	0	0	0
	Almost never or never true	Not very often true	Sometimes true	Often true	Almos alway: or alway: true
8. Talking over my problems with my children makes me feel ashamed or foolish.	0	0	0	0	0
9. My child expects too much of me.	0	Ο	0	0	0
10. I get upset easily around my child.	0	Ο	0	0	0
11. I get upset a lot more then my child knows about.	0	0	0	0	0
12. My child cares about my point of view.	0	0	0	0	0
13. My child trusts my judgment.	0	0	0	0	0
14. My child has their own problems so I don't bother them with my problems.	0	0	0	0	0
	Almost never or never true	Not very often true	Sometimes true	Often true	Almos alway: or alway: true
15. My child helps me understand myself better.	0	0	0	0	0
16. I tell my child about my problems.	0	0	0	0	0
17. I feel angry with my child.	0	Ο	0	0	0
18. I don't get much attention or credit from my child.	0	Ο	0	0	0
19. I talk to my child about my difficulties.	0	Ο	0	0	0
20. My child understands me.	0	0	0	0	0
21. When I am angry my child often understands.	0	0	0	0	0

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3/27/2020 Qua	Qualtrics Survey Software							
	Almost Almos never Not alway: or very or never often Sometimes Often alway: true true true true true							
	Almost Almos never Not alway: or very or never often Sometimes Often alway: true true true true true							
22. I trust my child.	\circ \circ \circ \circ \circ							
23. My child doesn't understand what I am going these days.	through O O O O							
24. I can count on my child when I need to get so off my chest.	mething O O O O O							
25. If my child knows something is bothering me me about it.	hey ask O O O O O							
26. I will select almost always as my answer.	\circ \circ \circ \circ \circ							
27. I get frustrated with my child.	\circ \circ \circ \circ \circ							
28. I don't like being around my child.	\circ \circ \circ \circ \circ							
	Almost Almos never Not alway: or very or never often Sometimes Often alway:							
	true true true true true							
29. I am constantly yelling and fighting with my cl								
30. When I feel sad and lonely I spend time with r								
31. I don't like my children to touch me.	\circ \circ \circ \circ \circ							

My Mother's Attitudes/Behaviours

Please think back to your adolescent years (i.e., when you were 13-17 years old). For the following items, please indicate the likelihood that your mother would have responded to you in the particular way specified on a scale from 1 (very unlikely) to 7 (very likely). Please read each item carefully and respond as honestly and sincerely as you can. For each response (a through f), please select a number from 1-7.

1. When my mother saw me becoming angry at a close friend, she would usually:

	1 (Very Unlikely)	2	3	4 (Medium)	5	6	7 (Very Likely)
a) Become uncomfortable and uneasy in dealing with my anger	0	0	0	0	0	0	0
 b) Encourage me to express my anger 	0	0	0	0	0	0	0
c) Talk to me to calm me down	0	0	0	0	0	0	0
d) Tell me not to make such a big deal out of it	0	0	0	0	0	0	0
e) Get angry at me for losing my temper	0	0	0	0	0	0	0
f) Help me think of things to do to solve the problem	0	0	0	0	0	0	0

2. When I felt down because I'd had a bad day, my mother would usually:

1 (Very			4		7 (Ver		
Unlikely)	2	3	(Medium)	5	6	Likely)	

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3/27/2020			Qualtrics Surv	ey Software			
	1 (Very Unlikely)	2	3	4 (Medium)	5	6	7 (Very Likely)
a) Tell me I really had nothing to be sad about	0	0	0	Ο	0	0	0
b) Try to get me to think of good things that happened	0	0	0	Ο	0	0	0
c) Listen to me talk about my feelings	0	0	0	0	0	0	0
d) Become obviously uncomfortable when she saw I was feeling down	0	0	0	Ο	0	Ο	0
e) Help me think of things to do to get my problem solved	0	0	0	Ο	0	0	0
f) Tell me to straighten up and stop sulking around the house	0	0	0	0	0	0	0

3. When I got anxious about performing in a recital or a sporting event, my mother would usually:

	1 (Very Unlikely)	2	3	4 (Medium)	5	6	7 (Very Likely)
a) Help me think of things to do to make sure I did my best	0	0	0	Ο	0	0	0
b) Yell at me for becoming so anxious	0	0	0	0	0	Ο	0
c) Try to calm me down by helping me take my mind off things	0	0	0	Ο	0	Ο	0
d) Tell me not to make such a big deal out of it	0	0	0	Ο	0	0	0
e) Encourage me to talk about what was making me so anxious	0	0	0	0	0	0	0
f) Get anxious about dealing with my nervousness	0	0	0	0	0	0	0

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Qualtrics Survey Software

4. When I got angry because I couldn't get something I really wanted, my mother would usually:

	1 (Very Unlikely)	2	3	4 (Medium)	5	6	7 (Very Likely)
a) Try to make me feel better by making me laugh	0	0	0	Ο	0	0	0
b) Help me think of other ways to go about getting what I wanted	0	0	0	0	0	0	0
c) Get upset with me for becoming so angry	0	0	0	0	0	0	0
d) Become uncomfortable and not want to deal with me	0	0	0	Ο	0	0	0
e) Tell me I was being silly for getting so angry	0	0	0	Ο	0	0	0
f) Encourage me to talk about my angry feelings	0	0	0	0	0	0	0

5. When I got sad because I'd had my feelings hurt by a friend, my mother would usually:

	1 (Very Unlikely)	2	3	4 (Medium)	5	6	7 (Very Likely)
a) Get nervous dealing with my sad feelings	0	0	0	0	0	0	0
b) Encourage me to talk about what was bothering me	0	0	0	0	0	0	0
c) Try to cheer me up	0	0	Ο	0	0	Ο	0
d) Tell me that things weren't as bad as they seemed	0	0	0	Ο	0	0	0
e) Get angry at me for not being more in control of things	0	0	0	0	0	0	0

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3/27/2020	Qualtrics Survey Software						
	1 (Very Unlikely)	2	3	4 (Medium)	5	6	7 (Very Likely)
f) Help me think of ways to help make the problem better	0	0	0	0	0	0	0

6. When my mother saw me become anxious about something at school, she would usually:

	1 (Very Unlikely)	2	3	4 (Medium)	5	6	7 (Very Likely)
a) Tell me that I was making too big a deal out of it	0	0	0	Ο	0	0	0
b) Become nervous and uneasy in dealing with my anxiety	0	0	0	Ο	0	0	0
c) Get angry at me for not dealing with things better	0	0	0	Ο	0	0	0
d) Encourage me to talk about what was making me nervous	0	0	0	Ο	0	0	0
e) Help me think of things to do to solve the problem	0	0	0	Ο	0	0	0
f) Help comfort and soothe my anxious feelings	0	0	0	Ο	0	0	0

7. When I got angry at a family member, my mother would usually:

	1 (Very Unlikely)	2	3	4 (Medium)	5	6	7 (Very Likely)
a) Try to help us resolve the conflict	0	0	0	0	0	0	0
b) Threaten to punish me	0	0	0	0	0	0	0
c) Tell me I was over- reacting	0	0	0	0	0	0	0
d) Try to help me calm down	0	0	0	0	0	0	0

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3/27/2020	Qualtrics Survey Software						
	1 (Very Unlikely)	2	3	4 (Medium)	5	6	7 (Very Likely)
e) Choose medium as my answer	0	0	0	0	0	0	0
f) Encourage me to let my angry feelings out	0	0	0	0	0	0	0
g) Become very uneasy and avoid dealing with me	0	0	0	0	0	0	0

8. When I got upset because I missed someone I cared about, my mother would usually:

	1 (Very Unlikely)	2	3	4 (Medium)	5	6	7 (Very Likely)
a) Become nervous dealing with me and my feelings	0	0	0	0	0	0	0
b) Encourage me to talk about my feelings for this person	0	0	0	Ο	0	0	0
c) Try to get me to think about other things	0	0	Ο	0	0	0	0
d) Tell me that I had nothing to be upset about	0	0	Ο	0	0	0	0
e) Get upset with me for not being in control of my feelings	0	0	Ο	0	0	0	0
f) Help me think of ways to get in touch with the person I missed	0	0	0	0	0	0	0

9. When I became nervous about some social situation that I had to face (such as a date or a party), my mother would usually:

1 (Very			4			7 (Very
Unlikely)	2	3	(Medium)	5	6	Likely)

3/27/2020			Qualtrics Surv	ey Software				
	1 (Very Unlikely)	2	3	4 (Medium)	5	6	7 (Very Likely)	
a) Try to calm me down by pointing out how much fun I would have	0	0	0	0	0	0	0	
 b) Give me advice about what to do in the social situation 	0	0	0	Ο	0	0	0	
c) Get angry at me for being so emotional	0	0	0	0	0	0	0	
d) Prefer not to deal with my nervousness	0	0	0	0	0	0	0	
e) Encourage me to express my feelings	0	0	0	0	0	0	0	
f) Tell me I was making a big deal out of nothing	0	0	0	0	0	0	0	

My Romantic Relationships

The following statements are regarding how you generally feel in close relationships (i.e., with romantic/marital partners). Respond to each statement by indicating how much you agree or disagree with it. Use the following rating scale: *Please note that the option for "Agree strongly" has

0		, 0		en cut-off.		Agree strongly	llas
	Disagree strongly	Disagree	Disag ree slightly	Neutral/Mixed	Agree slightly	Agree st	
1. I feel comfortable depending on romantic partners	0	0	0	0	0	0	
 I worry that romantic partners won't care about me as much as I care about them 	0	0	0	0	0	0	
I usually discuss my problems and concerns with my partner	0	0	0	0	0	0	
4. I worry a fair amount about losing my partner	0	0	0	0	0	0	
5. I tell my partner just about everything	0	0	0	0	0	0	
6. I worry about being abandoned	0	0	0	0	0	0	
 I don't mind asking romantic partners for comfort, advice, or help 	0	0	0	0	0	0	
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3/27/2020		Qualtrics Survey	Software			
	Disagree strongly	Disagree	Disagree slightly	Neutral/Mixed	Agree slightly	, Agree st
8. I worry about being alone	0	Ο	Ο	0	0	0
9. I don't feel comfortable opening up to romantic partners	0	0	0	0	0	0
10. I need a lot of reassurance that I am loved by my partner	0	0	0	0	0	0
 I feel comfortable sharing my private thoughts and feelings with my partner 	0	0	0	Ο	0	0
12. If I can't get my partner to show interest in me, I get upset or angry	Ο	0	0	Ο	0	0

It is vital to our study that we only include responses from people that have devoted their full attention to this study. Otherwise, a great deal of effort (on the part of the researchers and the time of other participants) could be wasted. You will receive credit for this study (i.e., by being entered into the prize-winning draw) no matter what, however we would like to know whether you think the responses you gave in this survey are valid to use in our analyses. In your honest opinion, should we use your data in our analyses for this study?

\frown	
U	Yes

O No

We wish to know how you heard about our study to further adapt our recruitment process. Please indicate where you learned about us.

- O Posters at physical locations. Please specify where.
- O Ads on Facebook. Please specify if it was in a specific Facebook group.
- O University Advisor, Professor or Newsletter. Please specify which university.
- O Our React Lab website
- O Word-of-mouth
- O Other. Please specify.

Do you wish to be contacted for future studies?

0	Yes
0	No

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Appendix D

Resources for Participants

3/27/2020

Qualtrics Survey Software

We thank you for your participation in this study!

The e-mail address you provided in the initial survey will now be entered into a random draw to win 1 of 2 iPads!

If for whatever reason, you experience some discomfort as a result of the questions asked and believe you are in need of support please contact one of the following resources:

- 1. Tel-Aide: 514-935-1101. Tel-Aide is a free, anonymous, non-judgmental listening service for people in Montreal who are experiencing distress http://www.telaide.org/resources
- 2. Crisis Text Line: Text HOME to 686868 to text with a trained crisis responder to bring texters from a hot moment to a cool calm through active listening and collaborative problem-solving https://www.crisistextline.ca/
- 3. Provincial Resource Line for Victims of Sexual Assault: 1-888-933-9007. This is a toll-free hotline, information, and referral service for residents of Quebec who have experienced sexual assault, as well as their loved ones and caregivers http://agressionsexuellemontreal.ca/urgence/ligne-ressource
- 4. CLSC: Your local CLSC provides common health and social services. Contact your local CLSC for more resources http://sante.gouv.qc.ca/en/repertoire-ressources/clsc/

If you have any further questions or concerns that need to be addressed, you may also contact Dr. Rachel Langevin who will see to it that you receive the help you need.

Telephone: (514) 398-8349 Email: rachel.langevin@mcgill.ca

Please click on this link to obtain a copy of your consent form. Consent form English

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